AIR CONDITIONING & REFRIGERATION news

The Newspaper of the Industry

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INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

Stories of the Week
Gags of the Week
New Source of Family Income
Newspaper Boners
Verse of the Week
Satire from England
Philosophy of the Week
More Laughs
Devastating Last Line
Overlooked News Item
Out of Our Mailbag
Staff Memo

Stories of the Week

Warm spring weather prompted a Tulsa retailer to put in an elaborate window display of room air conditioners on a Friday. Saturday a blizzard struck.

After church Sunday the proprietor put a sign in his window:

"Sorry about the unexpected cold weather. We forgot to turn off these air conditioners."

"You mean to tell me you haven't visited your son and his bride out in California yet?"

"No, I haven't," wised a wise woman. "I'm waiting for them to send me a birth announcement. Grandmas, I've learned, are more welcome than mothers-in-law."

Fondly grandma listened while Billy said his bedtime prayer.

"Well done!" she congratulated.

"Ah, that was nothing," Billy deprecated while piling into bed. "You should hear me gargle."

Possible juror was challenged.

"Have you ever been a prisoner at the bar?"

"Oh, no sir. I've always gone to a bar quite willingly."

Gags of the Week

Our fathers used to worry about bringing up their children.

Present-day fathers are striving to *keep up* with them!

It's called middle-age because that's where it shows first.

New Source of Family Income

Cancer researchers have discovered that a liquid ingredient (lysozyme) which results from crying may help cure cancers.

We all hope so. Especially soap-opera addicts and late-night-television advertisers and viewers.

That added by-product of weeping could start another BOOM in the Do-It-Yourself League.

Newspaper Boners

HOUSE FOR SALE—Can't be moved. Should be wrecked. Phone 7216.—*Fallbrook* (Calif.) *Enterprise.*

(Editor's Note: Sounds ideal for a family with three or four lively kids.)

100% all aluminum combination windows—direct from factory to you.—*Waterbury American.*

(Concluded on Page 8, Col. 1)

FRANK L. GLEASON

Copeland Appoints Gleason Executive Vice President

SIDNEY, Ohio—Appointment of Frank J. Gleason as executive vice president of Copeland Refrigeration Corp. has been announced by Harry E. Thompson, president.

The elevation of Gleason to a position of greater responsibility has been brought about by the ever-increasing growth of Copeland Refrigeration and the attendant need for greater distribution of administrative responsibility, it was pointed out. He also continues in the office of treasurer.

Widely known in the refrigeration industry, Gleason joined the

(Concluded on Page 4, Col. 2)

Supermarkets Plan To Double Expansion

CLEVELAND — The supermarket industry will more than double its expansion rate in 1955, Curt Kornblau, director of research for Super Market Institute, revealed at the 18th annual convention of the institute here recently.

Industry experts estimated that the projected expansion program will call for the investment of more than $553,000,000 in new, larger markets.

Leaders in the supermarket industry are blueprinting an expansion program which will see three new supermarkets, each doing $1

(Concluded on Back Page, Col. 1)

Pictures of some of the refrigeration and air conditioning products displayed at the Super Market Institute's exposition will appear in the next issue of the NEWS.

New G-E Horizontal Packaged Conditioner Needs No Floor Space

BLOOMFIELD, N. J. — Packaged air conditioners that require no floor space have been introduced by General Electric Co. for use in stores, offices, and factories.

The new horizontal line, designed to be suspended from the ceiling or shelf-mounted, includes both water-cooled and air-cooled (waterless) models. The waterless models are claimed to be the first completely packaged air-cooled air conditioners in the commercial and

(Concluded on Back Page, Col. 4)

Freezer, Refrigerator 'Safe' for Food Storage, Early Evaluation of A-Bomb Effects Indicates

By Phil B. Redeker

YUCCA FLATS, Nev., May 5—The household refrigerator and food freezer will be as safe a place to protect foodstuffs from the danger of a nuclear weapon explosion as any place that might be found in the home.

That was one of the principal results of significance to the industry that came out of the preliminary observations following the long-delayed detonation of a 40 kiloton nuclear device on Thursday, May 5, at the test site here.

The explosion itself, one of the largest in the current series, generated a blast wave that literally knocked some of the observers off their feet at Media Hill, some 7 miles from the tower, and was said to be felt as far away as Los Angeles.

The familiar, red tinged mushroom cloud (part of its coloring comes from the dissolved tower) rose to 43,000 ft., and the dust cloud on the ground kicked up by the explosion seemed to range over 10 miles.

Since one of the major problems of a nuclear weapon attack on a populous area would be the feeding of survivors, any equipment that would serve to protect foodstuffs and keep them safe and edible is important to civilian defense and survival measures.

Another phase of the test, of importance to some parts of the air conditioning industry in particular, and to all industry generally, was the effect of the blast on mass shelters.

While it is desirable that bomb shelters be practically sealed at the time of the explosion, for maximum protection of occupants, there is the problem of ventilation and

(Concluded on Page 4, Col. 1)

Eye-Witness Report of A-Blast, 'Most Awesome Achievement'

By Phil B. Redeker

LAS VEGAS, Nev.—No matter how blase the individual, and this includes all kinds of hard-bitten newspapermen, there is something about one's first trip to a demonstration of what some call Man's Most Awesome Achievement for the first time that puts you literally on the "edge of your seat" during all the preliminaries.

After receiving mail credentials as an accredited observer at an A-bomb test, the first "lift" comes in the packet of written material received from those who are conducting the Atomic Open Shot test operation. This material explains what the test operation is all about, and what it is hoped will be accomplished.

But beyond that, there are things that stir the imagination—names that have been associated with the Bomb and its tests—Yucca Flat, Mercury, Camp Desert Rock. And there are the notes of caution about one's conduct at the test site, including the admonition to be wary of "sidewinder" rattlesnakes (later an official pointed out that thus far, the snakes had shown the good sense to stay away during the tests).

At the first briefing day, the program for observers is outlined, with Harold L. Goodwin, Director, Civil Defense Operations, handling the job of moderator in easy, informal style. All the briefing sessions, incidentally, are held in the beautiful new Las Vegas high school auditorium, which is fully air conditioned.

We hear from such people as Atomic Energy Commissioner Dr. John von Neumann, FCDA Administrator Val Peterson, Test Operators Manager James E. Reeves, and Dr. Alvin C. Graves, Scientific Advisor to the Test Manager.

Nuclear weapons, they explain, have brought war to the doorstep of United States citizens for the first time in nearly a century. For this reason, civil defense is an absolute necessity. At the same time, there is considerable misapprehension on the part of the public about nuclear weapons, which the results of the test might dispel.

Questions are asked about the size of the bomb—both physical size, and also its size in terms of effect, and in relation to other bombs.

"I hear it's no bigger than a baseball," one of the observers says.

The scientific advisor laughingly says it isn't that small. Later he reveals that the room on the tower

(Concluded on Page 26, Col. 1)

Precision Control of Temperature, Humidity, Purity Factor In Salk Vaccine Production

SYRACUSE, N. Y.—The critical role air conditioning has played in the desperate rush to mass-produce Dr. Jonas Salk's history-making anti-polio vaccine was revealed recently by Carrier Corp.

Carrier, which supplied special equipment for Dr. Salk's Tissue Culture Laboratory and Eli Lilly and Parke-Davis, said that precision control of temperature, humidity, and purity of air proved an essential key in the monumental task of bringing the new wonder substance to market at such an early date.

The basic air conditioning problems were absolute prevention of contamination which could have upset tests or production and maintenance of body temperatures in solutions where tissues and virus are artificially grown.

Early in 1953 when Dr. Salk's research began looking toward production of the vaccine on a massive scale, it became necessary to employ thousands of test tubes and slides in growing and preparing tissues and virus and analyzing the results.

"In Dr. Salk's Pittsburgh laboratory, it was a case of unstoppering test-tube necks instead of bottlenecks," according to William Bynum, Carrier executive vice president.

"Keeping the test tubes alone sealed tightly against contaminating bacteria, yeast, and mold found in ordinary air would have slowed down their work considerably," the Carrier executive said.

A special Carrier system was designed and installed which pressurized the room against infiltration of outside air, and subjected the conditioned air supply to five separate purifications by filtering. At the same time humidity was held at a low level to prevent contamination of slides, tubes, and other equipment by perspiration.

Break-neck speed in supplying equipment to hurry up the job was

(Concluded on Page 4, Col. 3)

NEMA Feb. Refrigerator Sales Show Rise over '54

NEW YORK CITY—February sales of domestic refrigerators were 1% better than in the same month of 1954, while sales for the first two months were 6% ahead of last year, a summary of reports by 15 companies to the National Electrical Manufacturers Association indicated recently.

A total of 338,575 units were

(Concluded on Page 6, Col. 1)

Mitchell Announces Trade-In Plan for Room Conditioners

CHICAGO — A trade-in plan for room air conditioners that will make reconditioned ¾-hp. units available on the market for as little as $99 has been announced by E. A. Tracey, general manager for The Mitchell Mfg. Co.

To be introduced to the public during "National Trade-In Week" May 16-23, the plan authorizes Mitchell dealers to offer as much as $125 for old units taken in trade for 1955 Mitchell ¾ or 1-hp. room air conditioners.

"Units taken in trade may be reconditioned by the dealer or sent to local authorized factory service

(Concluded on Page 4, Col. 4)

Shortage of Room Units Predicted by Tracey

CHICAGO — Consumer demands for room air conditioners will outstrip manufacturers' supplies by a quarter-of-a-million units in 1955, according to E. A. Tracey, general manager of The Mitchell Mfg. Co.

Tracey's forecast of a major shortage is based on what he has observed during a recent three-month, 45,000-mile tour on which he met with some 3,000 of Mitchell's 12,000 retail dealers.

"The 1955 sales of room air conditioners will be 1,300,00," Tracey said. "The inventory necessary in the hands of factory distributors and dealers will be 300,000 units. The total 1955 requirements will therefore be 1,600,000 units.

(Concluded on Page 4, Col. 4)

CLEARS UP MOISTURE
Before You Leave

The moment Thawzone is introduced into the system it starts to combat moisture.

You do not have to wait for the moisture to come around. Thawzone acts in all parts of the system at once.

Thawzone actually destroys moisture. . . . Helps prevent corrosion by neutralizing acids. . . . Helps prevent copperplating. . . . Will prevent as well as overcome moisture trouble. . . . A patented invention (cannot be copied). . . . Drying action not "smothered" by oil. . . . Can't cause pressure drop.

Costs only about 8¢ per lb. of refrigerant treated. . . . For all "Freon" or methyl units. . . . Only ⅛ oz. per lb. of refrigerant required. See your wholesaler or write Highside Chemicals Co., 18 Colfax Ave., Clifton, N. J.

THAWZONE®
THE LIQUID DRIER

MOTOR BASE ADAPTERS
Sell Many Other Items

Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No rotor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc.
SIZES FOR ⅛ to 3 H.P. Inclusive
Engineering Research Associates, Inc.
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Hazel Park, Michigan

'Chicago Tribune' Forum on Distribution, Advertising Set for May 17 to 18

CHICAGO — The sixth annual *Chicago Tribune* Forum on Distribution and Advertising will be held May 17 and 18 in the main audience studio of radio station WGN here, it was announced recently by W. C. Kurz, the newspaper's manager of general advertising.

The first forum session will be held Tuesday, May 17, starting at 2 p.m. Its subject is "Researching the market, the message, and the media."

Two sessions will be held Wednesday, one starting at 9:30 a.m. and the other at 2 p.m. Panelists at the morning meeting will discuss "Marketing to maintain the pace of the larger and faster moving American life." Topic for the final session is "Advertising to communicate buying ideas in the changing market."

Participating in the forum will be 20 representatives of various fields plus a moderator for each session.

Stewart-Kirby Gets Charter

RALEIGH, N. C.—Capitalized at $100,000, Stewart-Kirby Co., Inc. here has obtained a charter to deal in household appliances. David W. Stewart, Corinne O. Stewart, and Benjamin Bosse, all of Raleigh, were listed as the incorporators.

Sunbeam Div. Becomes Air Conditioning Div. Of American-Standard

NEW YORK CITY — Effective at once, the Sunbeam Air Conditioner Div. of American Radiator & Standard Sanitary Corp. will be known as the Air Conditioning Div. of American-Standard.

T. W. McNeill, president of the division, said that the change in name will enable the air conditioning operation to capitalize fully on the corporation's trade name.

In the past, both "Sunbeam" and "American-Standard" have been used in the division's advertising, promotion, and identification material.

This change in name involves no change whatsoever in the division's policies or activities, McNeill said.

The Air Conditioning Div. produces air heating and air cooling equipment.

Ward Lists Air Conditioners

CHICAGO — Montgomery Ward & Co. listed its "Wardaire" air conditioners for the first time in its 1955 mid-summer sales book, it was reported here recently. Two ¾-hp. units retailing at $199.88 and $229.88 were listed.

Plan Air Conditioned Bldg.

BUFFALO — Keem & Co. announced it will start construction soon on a $100,000 air conditioned office building in Lackawanna.

Borg-Warner and Byron Jackson Presidents Will Recommend Merger to Directors

CHICAGO — R. C. Ingersoll, president of Borg-Warner Corp., and E. S. Dulin, president of Byron Jackson Co., announce that after negotiating for some time they have agreed and will recommend to their respective boards of directors that the two companies merge.

Dulin has agreed to also recommend that the Byron Jackson shareholders approve the plan of merger. The merger is to be accomplished on the basis of four shares of Borg-Warner for five shares of Byron Jackson.

Borg-Warner is a leading manufacturer of household appliances and automotive, aircraft, and agricultural implement parts. Byron Jackson is a well-established manufacturer of centrifugal pumps, oil field tools and services, electronic devices, and nuclear power components.

Sales of Borg-Warner for 1954 were $380,317,341 with net earnings of $24,460,075, equivalent to $3.27 per share. Byron Jackson sales and services for the same period amounted to $31,890,695 with net earnings of $1,641,087, equal to $3.10 per share. The total assets of the combined companies as of Dec. 31, 1954 would be $292,473,081.

The announcement pointed out that the completion of the proposed merger would afford additional diversification to Borg-Warner's growing fields of industrial activity. This is particularly true in the oil field equipment industry, in which Borg-Warner is developing a sonic drill.

President Dulin stated that Byron Jackson would have, as a result of the merger, the financial and technical assistance needed for its growing research programs for the development of new products and services. When merged, the Byron Jackson Co., established in 1872, will continue to operate as an independent operating unit with no change in management, personnel, or policy.

North Carolina Contractors Win Round In Drive To Set Up Examining Board

RALEIGH, N. C.—North Carolina refrigeration contractors recently won another round in their drive to set up an examining board.

Senate Judiciary Commitee I approved their bill, on a split vote, leaving but one more hurdle—the Senate itself.

"Prior to stamping its approval on the bill," a spokesman pointed out, "the committee adopted an amendment bringing under the 'grandfather clause' all refrigeration contractors who have an established place of business on Jan. 1, 1956.

"Before," it was explained, "the bill applied only to those contractors in towns of 10,000 population or more, grandfather clause and all, and committee members questioned whether this would prevent a contractor in a small town from taking a job in a large one.

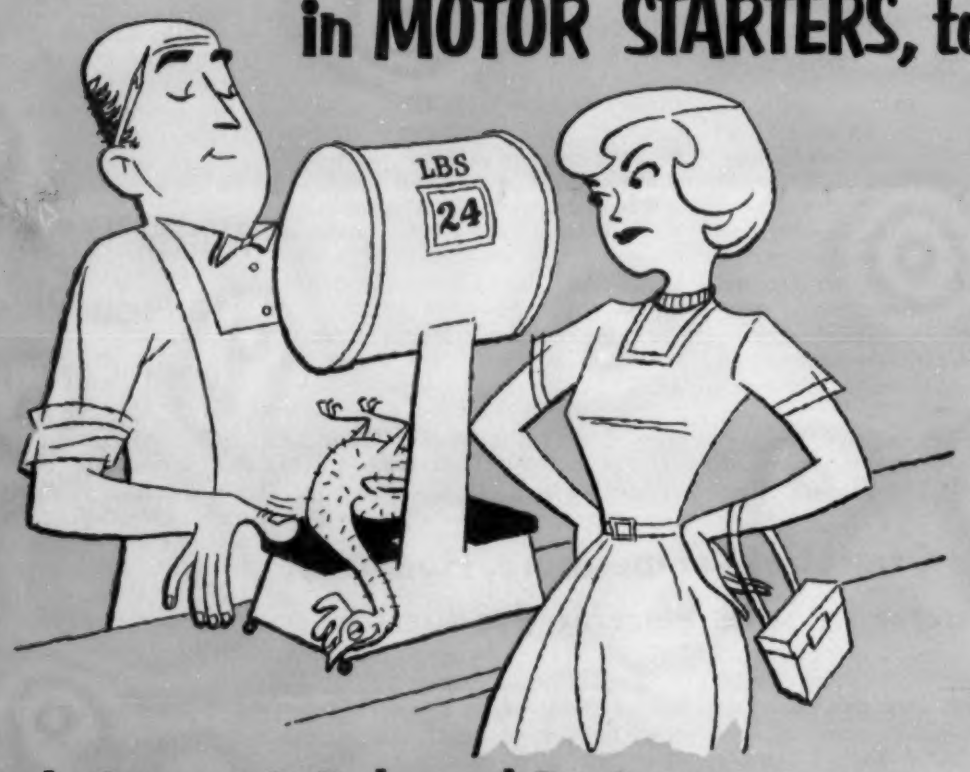
"Now, licensing still will be required only of contractors in towns of 10,000 or more, but those now operating in smaller towns will be licensed under the grandfather provision without examination."

It was pointed out that air conditioning is exempted from the bill. So is the home electrical appliance field. The committee was told it would apply only to those engaged in installing major refrigeration equipment, such as for freezer lockers and for grocery stores.

It would become a misdemeanor for anyone to engage in the refrigeration business without a license. The examination required of applicants will cost $25 and the annual license fee will be $25.

The board would have seven members—four of them from the refrigeration field. There would also be a member of the State Board of Health, one from the Engineering School of the Greater university, and one from the Division of Public Health of the Greater university.

Balance is important in MOTOR STARTERS, too!



Only Square D Balanced Design Gives *ALL* the Features without sacrificing *Any One*!

EASY INSTALLATION. Plenty of wiring space with *no sacrifice of compactness.*

SIMPLE MAINTENANCE. Coils, contacts, interlocks, overload relays easily changed without disturbing external connections. Normal maintenance made still easier with standardized parts kits. No complicated identification, ordering or stocking.

FLEXIBILITY. A wide range of special requirements can be met in the field, using standard starters and parts kits available from local distributor stock.

THEY COST NO MORE . . . WHY SETTLE FOR LESS?

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

N.Y. Calls 2nd Conference on Consumer Education In Effort To Combat Sales and Service Frauds

SYRACUSE, N. Y. — Gov. Averell Harriman announced a second conference on consumer education to combat fraud in the sale and servicing of home appliances.

Invitations have gone out for the meeting in Albany May 19, the governor said in a speech prepared for a luncheon meeting of adult education directors.

At the first governor's conference, held in March, Harriman related that "a number of different views were expressed as to what kind of legislation might be needed. But there was complete agreement on one thing—that it is necessary that consumers be much better informed on how to detect and prevent fraud."

He said he had asked his consumer counsel, Persia Campbell, to call the conference "on development of consumer education, including an intensive statewide program on this particular problem of fraud."

Detroit ASRE Will See Red Wing Hockey Films

DETROIT—A film of highlights from the 1955 Red Wing hockey playoffs will be shown at the May meeting of the Detroit section, American Society of Refrigerating Engineers, Roy Burns, section chairman, announced recently.

The meeting will be held at 8 p.m., May 9 in the engineering Society of Detroit section of the Rackham building.

John Mitchell, scout for the Red Wings, will also be on hand to discuss hockey techniques. The program is provided through the courtesy of the Stroh Brewery, Burns said.

Postpone Detroit-Michigan And Welbilt Stove Merger

DETROIT—Merger of the Welbilt Stove Co. and Detroit-Michigan Stove Co. has been postponed to May 17, it was reported here recently.

Failure of Detroit-Michigan to meet technical requirements of the merger in time for the stockholders meeting on April 26 caused the company to adjourn the meeting until that date.

John A. Fry, board chairman, indicated that the management has a majority of proxies of common and preferred stock in favor of the merger. The merger will result in a name change to Welbilt Corp.

This new "Kitchen of Today" is a working wonderland of 1955 Frigidaire Appliances

THIS YEAR, along with a new "Kitchen of Tomorrow," Frigidaire is showing an exciting new "Kitchen of Today" at the General Motors' Motorama.

Dramatic and beautiful, yet completely practical, this combination kitchen and laundry-utility area is filled with the new 1955 Frigidaire products. This kitchen is specially designed for indoor-outdoor living . . . and is also designed to create exciting new interest in the new and improved products that Frigidaire Dealers have to offer.

Far more than just an attention-getter, the Frigidaire "Kitchen of Today" is a trend-setter of unique new ideas and skillful planning for easier working—all made possible through the new Frigidaire products. And you, as a Frigidaire Dealer, are the man who can turn these ideas into reality in new and existing homes.

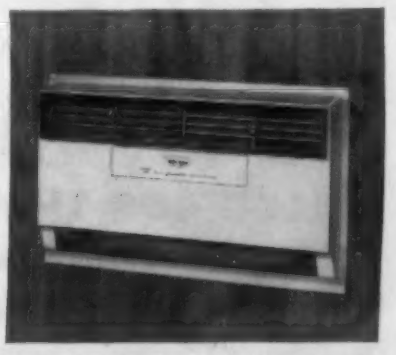
1 Frigidaire's new Imperial Wall Oven has the same capacity, the same Cook-Master Controls, the same convenience features of Frigidaire's finest ranges. Exclusive French Door Design adds to convenience; ideal for small kitchens.

2 New Frigidaire Fold-Back Surface Units are easily installed on any work surface for counter-top cooking—fold back to free counter for other uses. Each section has one 6" unit and one 8" unit. Stainless steel with plastic trim.

3 New Frigidaire Dishwasher has exclusive Turbo-Spray tube between the racks. Gets dishes, glassware, even pots and pans sanitary clean automatically. Pre-rinses, washes, double-rinses, and dries with Radiantube heat.

4 Frigidaire's revolutionary new Cold-Pantry . . . a food freezer-refrigerator with exclusive Picture Window Hydrator . . . is ideally situated in the center of things to save steps. And it is built-in for neat, streamlined appearance.

5 Famous Frigidaire Imperial Laundry Pair . . . automatic Live-Water Washer and matching Filtra-matic Dryer. Both washer and dryer have Lifetime Porcelain rust protection on cabinets, tub and drum, inside and out. Dryer needs no costly venting.



6 Frigidaire Thrifty Twin Room Conditioner provides dehumidified, cool, refreshing comfort whenever kitchen temperatures rise.

Frigidaire

Built and backed by General Motors

Operation Cue--

(Concluded from Page 1, Col. 5)
comfort in possible long periods of alarm before an enemy attack might occur.

It is believed that results of the "Operation Cue" nuclear device test will lead to a more intensive study of mass shelter problems and possibilities, as it is recognized that it may be impractical to evacuate all industrial workers.

The test on foodstuffs in Operation Cue generally was an undertaking by the Food and Drug Administration. In Operation Knothole in 1953 the same sponsors conducted an experiment of the effects of nuclear explosion on a variety of anti-biotics.

"The tests in this series on food and foodstuffs are considered of equal or greater importance," declared R. L. Corsbie, director of civil effects test group. "While it is recognized that one who takes a drug takes a chance, this cannot and must not be true for food," he said.

The actual results on the toxicity and nutritional adequacy from immediate and long-range effects on those foods which actually got heavy exposures of nuclear radiation and thermal energy and high blast pressures may not be known for more than two years. Through a two-year feeding program the exposed food will be fed to dogs, monkeys, cats and develop valid information for use in establishing permissible limits of nuclear radiation on foods acceptable under emergency conditions and on food acceptable for the commercial market.

A more complete evaluation of the damage effects on appliances and industrial equipment will be made after the blast area has "cooled off" and correspondents permitted to enter and survey the damage. A further report will be made in the next issue of AIR CONDITIONING & REFRIGERATION NEWS.

Gleason Appt.--

(Concluded from Page 1, Col. 2)
Copeland organization in 1937 as a vice president. He previously founded and served as executive secretary of both the Refrigeration Supplies & Parts Manufacturers' Association and the National Refrigeration Supply Jobbers' Association.

Copeland is one of the nation's oldest and largest manufacturers of commercial refrigeration equipment, with annual sales in excess of $25,000,000.

G-E Sales Up One Third

LOUISVILLE, Ky. — Factory sales of General Electric Co.'s refrigerators, ranges, and washers in the first quarter rose more than a third over a year ago, it was reported recently by C. K. Rieger, vice president and general manager of G-E's Major Appliance Div.

Salk Vaccine Production Needs--

(Concluded from Page 1, Col. 4)
a prime element in all of the air conditioning installations, Bynum said.

5-STORY BUILDING CONVERTED IN 90 DAYS

In Indianapolis, Eli Lilly & Co. converted an entire five-story building to polio vaccine production in less than 90 days.

Here anti-contamination provisions even exceeding those found in a hospital operating room are employed in areas where tissues from monkey kidneys are prepared and placed in nutrient mediums, it was pointed out.

In incubating rooms where tissue cells are actually grown in enclosed vats and where the strains of polio virus are planted and reproduced on the living tissue cells, special air conditioning is used to maintain body temperature of 98.6°. Cooling is necessary most of the time, because of the heat from dozens of motors which rock the vats constantly.

Once the virus strains are grown they are held in rooms where a battery of Carrier cold diffusers provides a chilly 40° temperature. They are then tested for potency, and strained through filters so fine that ordinary bacteria, yeast, molds, and other viruses will not pass through them, before being inactivated for use as a vaccine.

In these processing areas, as in the final mixing, testing, and packaging operations, air conditioning is used as one of the important weapons against airborne contamination.

Basically the vaccine-producing process consists of growing polio virus on tissue cells, then "killing" the virus so that it cannot cause polio but can induce the body to produce polio antibodies.

Vaccines produced in Dr. Salk's Tissue Culture Laboratory were used for the initial research on polio prevention in the Pittsburgh area. Production by such companies as Eli Lilly made possible the mass nationwide tests last year and the large supplies ready today.

In describing the installation serving Dr. Salk's laboratory, Carrier said:

"To help in 'picturing' this system and installation, draw a rectangle on a piece of paper. Label the shorter side 24 ft. and the longer 40 ft. Now draw a line parallel to the 24-ft. side cutting the rectangle in half. The room on the left is the sterilizing room and the one on the right is Dr. Salk's laboratory.

"Along the top 40-ft. length draw another rectangle with a 6-ft. width. It extends to the right a short distance.

"This new area is an old light and ventilation well, which, of course, became defunct with the installation of air conditioning. In fact, a roof has been placed over the skylight entrance. It is in this area (opposite the right-hand end of the lab) that the Carrier conditioning equipment is located.

"Outside air is brought in through the outside wall of the light well. It passes through two banks of ordinary dust-stop filters after which the air enters a mixing area. (From 50 to 100% of return air from the lab may be admitted here to be reconditioned.)

AIR PASSES THROUGH TWO MORE BANKS OF FILTERS

"The air passes through two more banks of filters before passing through a pre-cooling coil. Refrigerant for this coil is supplied by a Carrier hermetic condensing unit with 5 tons cooling capacity.

"Immediately after is a non-freeze steam coil used as a reheat coil during summer operation.

"The cool, dehumidified, and filtered air now enters one of Carrier's 'Self-Contained Weathermakers' having a 5-ton cooling capacity. The only difference between this unit and one found in the corner restaurant is the replaceable filters, which have been removed, and the addition of a booster fan on top of the unit.

"On the specification of Dr. P. L. Bazeley, Dr. Salk's leading assistant, in place of the Carrier's regular filters, special filters with steel frames and packed with 'Pyrex' glass wool for catching virtually all bacteria in the air stream have been installed.

"Both the condensing unit and packaged conditioner are water cooled.

AIR DELIVERED AT 78° TEMPERATURE, 45% RELATIVE HUMIDITY

"The clean air at the prescribed 78° temperature and 45% relative humidity is sent to the lab and the sterilizing room through ceiling-high ducts located on each side of the partition dividing the two rooms. Four diffusers provide for even distribution of a volume of air at low velocity.

"All air is exhausted from the sterilizing room. An exhaust in the ceiling of the lab may be dampered to return up to 50% of admitted atmosphere.

"A two-step thermostat governs the system turning on the Carrier Weathermaker first and the condensing unit later, if additional cooling and dehumidification is required. If needed, a humidistat in the lab for precise humidity control, functions independently of the central control system operating only the pre-cooling coil.

"Because the system designed by Nick Laux, sales engineer for Koenig Refrigeration Co. in Pittsburgh, Carrier dealer, met the specifications demanded by Dr. Salk, as head of the Virus Research Laboratory at the University of Pittsburgh, he was given an immediate 'go ahead.' Inside of three weeks from receipt of the contract, the system was installed, wired, and in operation."

Commenting on the critical role air conditioning plays in preparation of the vaccine, Carrier pointed out that working in ordinary room air would have necessitated immediate re-sealing of each test tube, each of the many times it was opened for the addition of nutrient or virus strains.

"This would have increased the initial process of growing tissue and virus cultures in one thousand test tubes at the Pittsburgh laboratory many times over," the company noted.

easy to handle in hard-to-reach spots

ALCO 402 THERMO VALVES
THE SMALL-FIXTURE VALVES

You install them in any position—upright, sideways, upside down.

They're small and compact—fit in your hand.

You save work and time!

Built-in pressure limiting device prevents motor burn-out.

Freon-12—¼, ½ and 1 Ton
Freon-22—.4, .8 and 1.6 Tons
Methyl Chloride—½, 1 and 2 Tons

ALCO 402 — ENGINEERED FOR SERVICE ENGINEERS

ASK YOUR ALCO WHOLESALER

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Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.

6030

Mitchell Trade-In Program--

(Concluded from Page 1, Col. 5)
depots for steam cleaning and reconditioning," it was explained.

Mitchell will introduce "National Trade-In Week" with a full-scale advertising campaign including newspapers, radio, and television.

"The time has arrived when 'trading-in' is becoming a major factor in the air conditioning industry," Tracey said. "All indications show that the rush to trade in older models will begin this year.

"Our plan is designed to give our dealers every advantage in the trade-in market," Tracey said, "both in the amount they can offer on old models, and in factory service to guarantee them dependable used models for re-sale."

Tracey said consumer surveys show re-conditioned air conditioners will find a good market if priced at around $100.

Tracey Predicts Room Conditioner Shortage--

(Concluded from Page 1, Col. 5)
"Since the carryover from 1954 is 600,000, the total new production needed this year will be 1,000,000. From all indications the probable production in 1955 will be 750,000 air conditioners, leaving a 250,000 unit shortage."

"In fact, orders for Mitchell room units already are running ahead of our production schedule," he added. "Dealers obviously are looking forward to their biggest year yet."

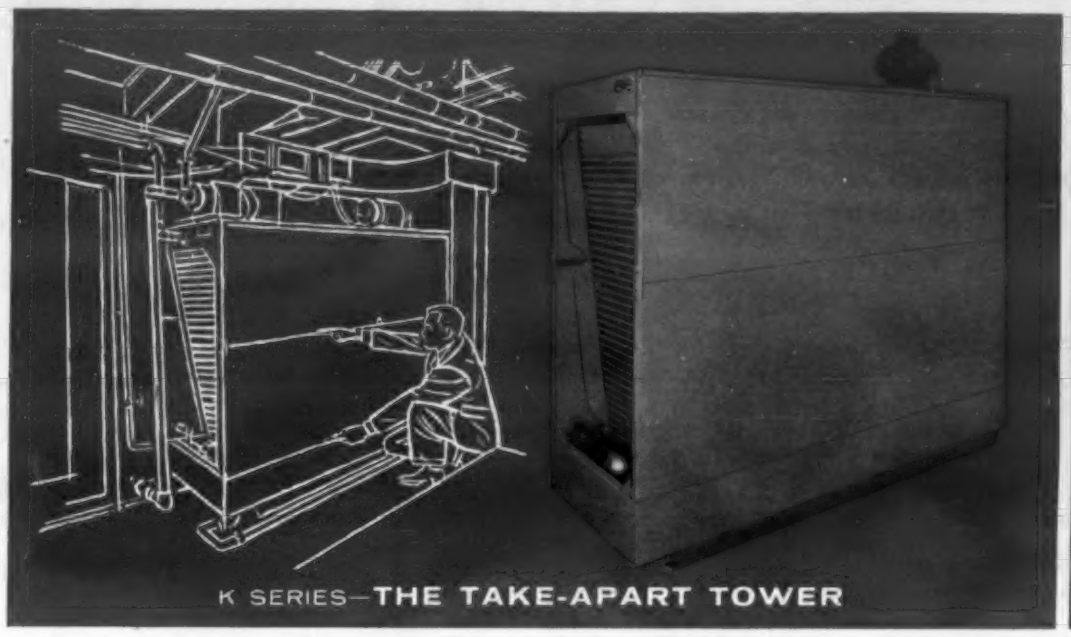
An unusual degree of conservatism because of left-over 1954 units is largerly responsible for the low estimated production figure of 750,000 units for 1955, according to Tracey.

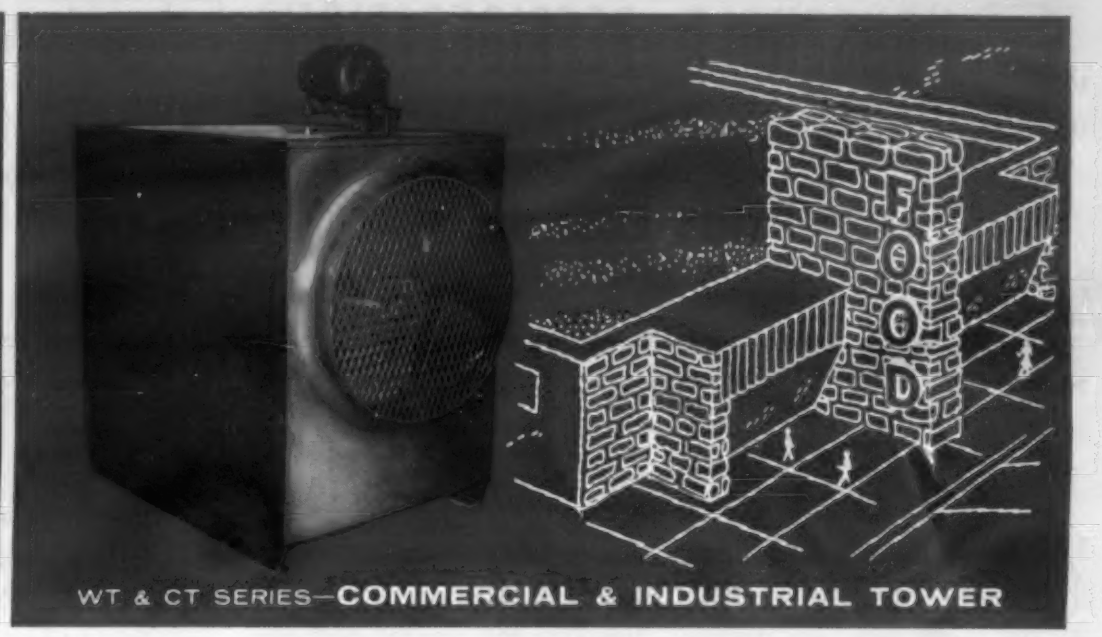
"The industry figured the 600,000 overflow units from 1954 would simply reduce sales of new room air conditioners by that number," he said. "And production was planned accordingly.

"What the industry failed to take into consideration was the number of new customers created by the "bargain-basement' prices at which the year-old, 1954 units would be sold," he explained.

"According to present figures, this will amount to about 300,000 unanticipated sales—sales to persons who would not buy air conditioning if it were not for the highly reduced clearance prices of last year's units.

"Combined with the normal projected sales figure of 1,300,000 units based on annual trends, this adds up to possible sales of some 1,6000,000 room units in 1955."


K SERIES—THE TAKE-APART TOWER



WT & CT SERIES—COMMERCIAL & INDUSTRIAL TOWER

Only HALSTEAD & MITCHELL offers ALL these types of cooling towers!

RE SERIES—THE RESIDENTIAL TOWER

KB SERIES—THE CENTRIFUGAL FAN TOWER

and only HALSTEAD & MITCHELL offers the 20-Year Guarantee!

on the wetted deck surface against rotting or fungus attack

You select the *type* of Halstead & Mitchell Cooling Tower you need from a line designed to meet *applications*. There's no reason to "make do," with consequent penalties to you or your customers. Here's the industry's *broadest* selection.

Need cooling towers for industrial or commercial use? Then Halstead's WT and CT towers are designed in a range from 2 to 120 tons specifically for these applications. Indeed, the CT-line is the only one in the industry which makes use of 10-gauge sheet steel for cabinets—providing an added measure of life—a major sales value for the supermarkets, for instance.

Need a cooling tower which can be taken apart for installation in difficult places . . . and thus can be moved easily to roof tops without the expense of riggers, or down narrow stair wells for basement installations? Then try the K-Series of Halstead & Mitchell Take-Apart Cooling Towers. It's the only cooling tower made which is *designed for this feature.*

Need a residential cooling tower specifically designed and priced for the home market? In leading the way into this field, Halstead incorporated the major quality features which had made it the industry's top seller in the commercial field, yet kept in mind "price"—fundamental in selling to the home market.

Need ultra-quiet operation? Halstead & Mitchell's centrifugal fan cooling tower for home, hospital and other "hush" applications can be relied on to meet stringent decibel codes.

Need quality? Only Halstead & Mitchell offers the 20-Year Guarantee on the wetted deck surface against rotting or fungus attack. H & M exclusively provides Protected Steel, a new concept in protecting steel against corrosion—for added years of cooling tower life.

Want more details? The coupon below is for your convenience.

GET FULL DETAILS ON AMERICA'S FASTEST SELLING COOLING TOWERS

HM Halstead & Mitchell

BESSEMER BUILDING • PITTSBURGH 22, PA.

Horace I. Schmidt, General Sales Manager
HALSTEAD & MITCHELL, Bessemer Building, Pittsburgh 22, Pa.

Yes I'm interested in learning the full Halstead & Mitchell Cooling Tower story. And I'm especially interested in literature describing:

- ☐ COMMERCIAL AND INDUSTRIAL TOWERS
- ☐ RESIDENTIAL TOWERS
- ☐ TAKE-APART TOWERS
- ☐ CENTRIFUGAL FAN TOWERS

I'd like to sell Halstead & Mitchell Cooling Towers. Please send me more details. ☐

Firm Name	Your Name	Position
Address	City & Zone	State

HOUSEHOLD REFRIGERATION

Where Does Loss Begin?

Guide Shows Average Expense Per Cent to Sales on Stock, Direct Shipments Made by Distributor

NEW YORK CITY—The publication of a chart to show at what level of gross margin appliance distributors can operate before they reach an out-of-pocket loss point has been announced by Arthur W. Hooper, executive director of the National Association of Electrical Distributors.

The charts have been designed for use as a guide to show the average expense per cent to sales on both stock and direct shipments of various sizes.

By referring to this chart, it was pointed out, a distributor will be able to get a clearer picture of the present day expense of performing his distributing functions.

According to the association, it is difficult to plan how to insure a satisfactory net profit unless there are some means of knowing what orders are being handled at a loss.

And no accurate idea of what constitutes an adequate gross margin is possible for the distributor until the expense of filling a customer's order from stock is calculated separately from the expense of an order shipped direct from factory to customer.

A further reason for a distributor to differentiate between stock shipments and direct shipments is the fact that the net profit per cent to sales after taxes—necessary to give an adequate return on the investment involved—is approximately twice as great in the case of stock shipments as in the case of direct shipments.

The figures on the chart represent an average for all commodities. They will vary for stock shipments if the merchandise inventory turnover rate or space occupying characteristics of a particular commodity is much worse or better than average.

The figures on which the chart is based are contained in the most recent NAED operating cost study.

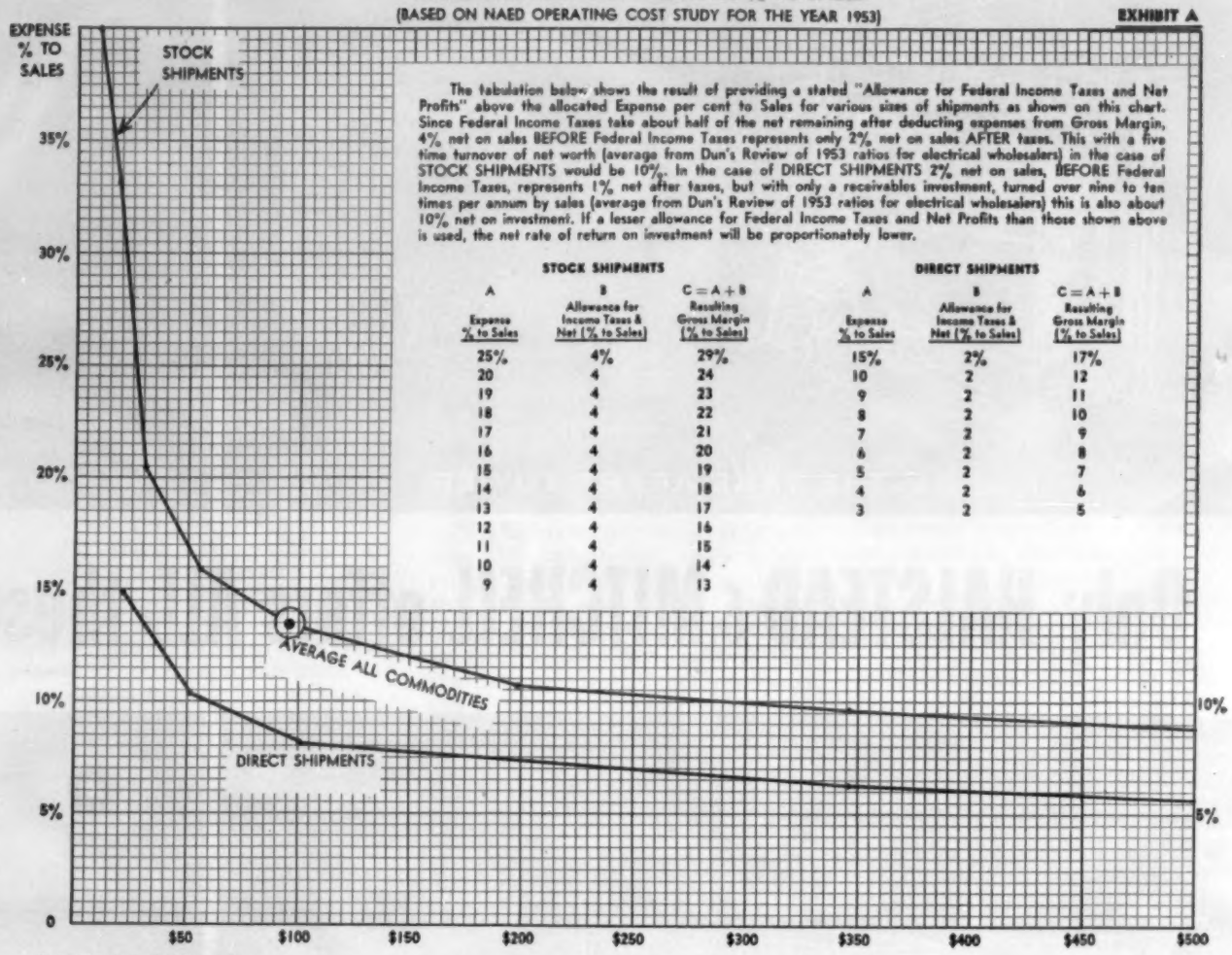
A member of the association, using this chart as a guide, will now be able to estimate at a glance his average out-of-pocket expense per cent to sales for the handling of various sized stock shipments and direct shipments.

Any sales made at a margin which does not cover the expense of the functions he performs will entail a financial loss to himself and an economic loss to the industry.

NAED also published similar charts to aid apparatus and supply distributors and combination supply and appliance distributors, according to the announcement.

Expense of Performing Distributing Functions

APPLIANCE MEMBERS — EXPENSE % TO SALES
(BASED ON NAED OPERATING COST STUDY FOR THE YEAR 1953) EXHIBIT A



The tabulation below shows the result of providing a stated "Allowance for Federal Income Taxes and Net Profits" above the allocated Expense per cent to Sales for various sizes of shipments as shown on this chart. Since Federal Income Taxes take about half of the net remaining after deducting expenses from Gross Margin, 4% net on sales BEFORE Federal Income Taxes represents only 2% net on sales AFTER taxes. This with a five time turnover of net worth (average from Dun's Review of 1953 ratios for electrical wholesalers) in the case of STOCK SHIPMENTS would be 10%. In the case of DIRECT SHIPMENTS 2% net on sales, BEFORE Federal Income Taxes, represents 1% net after taxes, but with only a receivables investment, turned over nine to ten times per annum by sales (average from Dun's Review of 1953 ratios for electrical wholesalers) this is also about 10% net on investment. If a lesser allowance for Federal Income Taxes and Net Profits than those shown above is used, the net rate of return on investment will be proportionately lower.

STOCK SHIPMENTS			DIRECT SHIPMENTS		
A Expense % to Sales	B Allowance for Income Taxes & Net (% to Sales)	C = A + B Resulting Gross Margin (% to Sales)	A Expense % to Sales	B Allowance for Income Taxes & Net (% to Sales)	C = A + B Resulting Gross Margin (% to Sales)
25%	4%	29%	15%	2%	17%
20	4	24	10	2	12
19	4	23	9	2	11
18	4	22	8	2	10
17	4	21	7	2	9
16	4	20	6	2	8
15	4	19	5	2	7
14	4	18	4	2	6
13	4	17	3	2	5
12	4	16			
11	4	15			
10	4	14			
9	4	13			

Simplified condenser

Above: Bundyweld 12-pass condenser coil being placed in grooves of condenser plate, to form a Houdaille-Hershey condenser. At right: Cross section of patented Houdaille construction, using ¼" O.D. Bundyweld mechanically bonded to the lightweight steel plate.

WHY BUNDYWELD IS BETTER TUBING

Bundyweld starts as a single strip of copper-coated steel. Then it's . . .

continuously rolled twice around laterally into a tube of uniform thickness, and

passed through a furnace. Copper coating fuses with steel. Result . . .

Bundyweld, double-walled and brazed through 360° of wall contact.

NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead, and less chance for any leakage.

NEMA Refrigerator Sales Show Rise over Jan. '54; 719,772 Units Sold In First Two Months

(Concluded from Page 1)

sold during the month by these companies.

Sales within the United States for February showed a 3% gain over last year, while sales to other countries dropped 23%. Sales for the first two months within the United States were 7% higher than last year. But sales to Canada declined by 34% and to other foreign countries by 5%.

As compared with January, overall sales were down 12%. Sales within the United States slacked off by the same percentage. Sales to Canada rose 39% and those to other countries fell 3%.

ELECTRIC HOUSEHOLD REFRIGERATORS

FEBRUARY (15 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft. ...	....	....	....	....
2. 4 cu. ft.	1,199	....	12	1,211
3. 5 cu. ft.	16	11	10	37
4. 6 cu. ft.	1,652	....	421	2,073
5. 7 cu. ft.	9,537	124	1,080	10,741
6. 8 cu. ft.	60,129	141	5,451	65,721
7. 9 cu. ft.	35,886	420	3,017	39,323
8. 10 cu. ft.	50,958	1,045	2,120	54,123
9. 11 cu. ft.	59,497	1,125	2,293	62,915
10. 12, 13 cu. ft. and up ..	99,938	730	1,763	102,431
11. Total	318,812	3,596	16,167	338,575
Refrigerators having 2 exterior doors. (All sizes included in above.) ..	68,061	770	1,631	70,462

FIRST TWO MONTHS (15 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft. ...	....	....	....	....
2. 4 cu. ft.	2,608	....	241	2,849
3. 5 cu. ft.	74	11	10	95
4. 6 cu. ft.	2,439	....	867	3,306
5. 7 cu. ft.	20,663	1,068	2,178	23,909
6. 8 cu. ft.	139,988	141	12,132	152,261
7. 9 cu. ft.	74,682	1,017	5,046	80,745
8. 10 cu. ft.	113,186	1,448	4,711	119,345
9. 11 cu. ft.	141,583	1,331	4,397	147,311
10. 12, 13 cu. ft. and up ..	185,570	1,170	3,211	189,951
11. Total	680,793	6,186	32,793	719,772
Refrigerators having 2 exterior doors. (All sizes included in above.) ..	108,722	902	2,447	112,071

Participating companies: Admiral Corp.; Crosley & Bendix Divs., Avco Mfg. Corp.; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., American Motors Corp.; Norge Div., Borg-Warner Corp.; Philco Corp., Appliance Div.; Quicfrez, Inc. (formerly Sanitary Refrigerator Co.); Seeger Refrigerator Co.; Servel, Inc.; Westinghouse Electric Corp.

To Increase Profit Use Big Business Methods

1. Hire Top-Notch Management Team

2. Diversify, Handle Lines with Good Margins

3. Keep Employe Records Posted as Incentive

By George M. Hanning

GRAND RAPIDS, Mich. — "I think the appliance dealer ought to make 10% net profit, rather than the 2, 3, or 5% that he is now making," Dick Palmer, Macon, Ga. appliance dealer, told a group of Michigan dealers here recently.

Speaking before the third annual convention of Michigan appliance and TV dealers, Palmer declared that if the manufacturer can make that kind of profit on a business running into millions and billions of dollars, the dealer ought to be able to make it too.

"You can make as much profit as you want to, so long as it is a reasonable profit," Palmer asserted. He claimed he makes 10% or close to it.

But, he noted, in order to make that profit, the dealer has to adopt the methods the big corporation uses to earn such a profit.

First of all, he noted, the big corporations have good management at the top. If the management isn't any good, they get rid of it and get a team that is.

In the dealer's case, he noted, the manager is generally the dealer himself, and he is very reluctant to fire himself. But, if he is going to make a profit, he had better learn how to manage efficiently or hire someone that does, Palmer advised.

Next, the big corporations are diversifying. They are not putting all their eggs in one basket. While Palmer did not suggest that the dealer also get into some other line of business, he did suggest that they consider handling new appliances that have a good profit margin and shedding the ones with poor profit potentials.

Thirdly, the dealer must have good record keeping. He must know at all times exactly where he stands. He must know what his goals are, what he has to do to reach those goals, and then be able to measure his performance against the set objectives.

Palmer said that he maintains a daily quota sheet. This sheet lists the quota for each department each day. The quota is determined by past performance plus what is necessary to reach the desired goals. Opposite the quota figure is posted the actual performance for that day, plus the cumulative performance for the month to date.

Along with this quota sheet, Palmer also maintains an individual quota and sales record for each employe in his organization. This record is posted on a blackboard in the sales room and includes everyone from Palmer himself down to the porter.

"Selling is like baseball," he commented. "If you don't keep score, the game isn't any fun. You'd be surprised how much difference it makes to post the score publicly. Everyone hates to see his name at the bottom of the list and feels elated when his name is at the top.

"I know that the difference between having that posting board up and not having it up is a 20% variation in sales."

Next, the dealer needs an organized system of buying. In order to make a good profit, he has to get a good margin. So he should find out about discounts before he buys and make sure "he is on the right price sheet."

Then the dealer needs to make a good gross profit. He knows what it costs him for his merchandise. He should know what it costs him to operate his business. He knows what net profit he wants. With this information he learns what gross profit he needs to make to get that net profit. Then he should do what is necessary to achieve the necessary gross. This may mean trimming overhead, trimming sales costs, or increasing sales.

Palmer suggested that the dealer put a sign on his desk telling how much it costs him to keep his doors open for one hour.

"I guarantee you that such a sign will keep you working. Of course you will have a nervous breakdown the first month, but after you recover you'll be a better operator. And you won't be able to stand to see an employe loafing. You will be after him in an instant."

Next step is to advertise consistently, expecting a dollar to come back for every dollar you spend.

"You can't stop advertising to save money," he declared. "Less advertising will mean less volume and then your costs will actually go up rather than down. But make your advertising as effective as you possibly can."

Finally, in order to make a good net profit, it is necessary to stop leaks in your profit. Palmer suggested that the dealer bond all his employes to protect against losses of all kinds.

He also suggested that the dealer use a shopping service to check on employe's performance. Such a service, he said, can tell you how your employes are selling and who is putting money in the till and who isn't.

A third suggestion to stop profit leaks is to set up a good inventory control. Lost inventory can make the difference between a 2% net and a 10% net at the end of the year, he said.

On the other hand, Palmer declared, if you should make a windfall profit—an extra profit that you are not going to continue to make—salt it away or invest it back into the business so that it will help carry you over the rough spots.

By doing all these things and continually working toward the profit you want, Palmer concluded, you may not make the desired profit all the time, but you will come very close to it.

SPECIALTY SELLING METHODS

Good Gimmick = Good Sales

It Can Increase Store Traffic, Stimulate Interest, Keep Store's Identity, Help Sell Features

PITTSBURGH — "Get a sales gimmick — and sell appliances," West Penn Power Co. advised dealers recently.

The utility pointed out in a picture report that "some of the latest ones that are producing profitable results" include a "White Glove" party to promote electric ranges, selling refrigerators from a trailer parked beside the store, and freezer-food plans.

Used properly, West Penn said, a sales gimmick can:

"1. Increase your store traffic.

"2. Maintain identity for your store.

"3. Stimulate customers' interest and attention.

"4. Provide a good starting point for telling your sales story to customers.

"5. Help you sell the features of your appliances.

"6. Help bring informality to your demonstration programs and spark interest."

Newspaper advertising and direct mail were recommended as effective ways to publicize sales gimmicks. "Window displays also help by bringing folks into your store where you can give complete demonstrations of your equipment," the utility added.

The West Penn report indicated that many area dealers have been staging White Glove parties built around the theme, "Electric Cooking Is White Glove Clean."

Like a number of other retailers, Smith Brothers Co., Ridgway, Pa., promoted the theme by arranging an attractive window display to publicize its electric range party, mailed out White Glove invitations, ran newspaper ads, gave White Glove pot-holders as gifts, and presented a pair of white gloves as a prize at the cooking program.

Nearly 150 homemakers attended the party. They placed bids on a range, which was sold to the high bidder.

When H. A. Klingensmith & Sons, New Kensington, held such a party for the Dames of Malta, William Klingensmith asked the women to wear white gloves. And the women "really got into the spirit of the White Glove party" by doing so, it was reported.

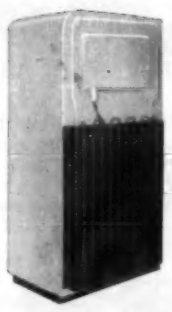
In Kittanning, Kittanning Hardware held a cooking program for ladies of the Reformed Church and Hi-Way Hardware sponsored a party for Pine Hill Cub Scout mothers. White gloves were awarded at both events.

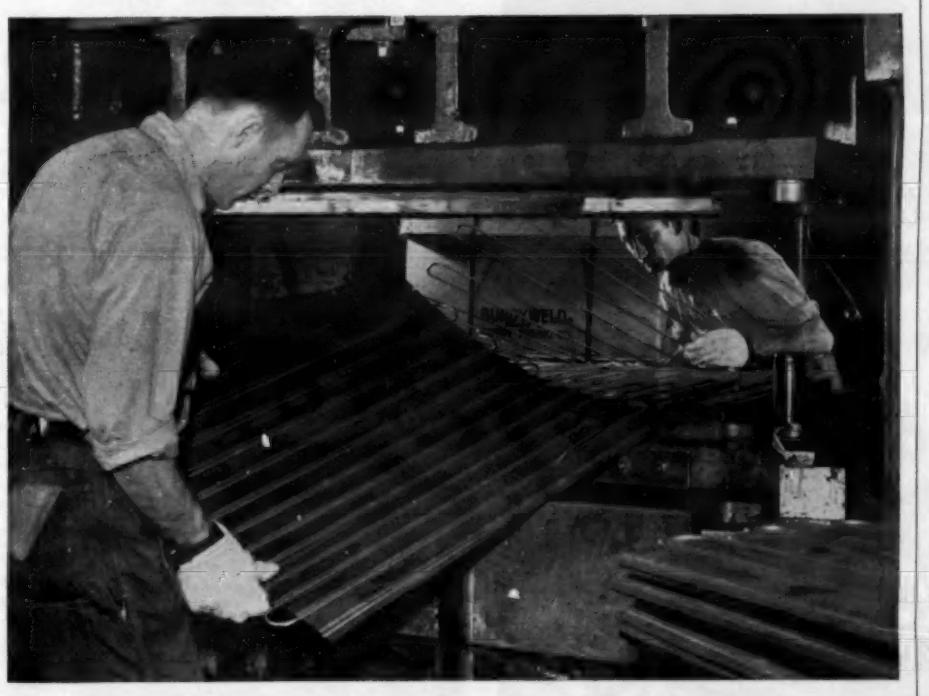
To help his sales personnel do a better selling job, J. F. Bucci of Steele's Hardware & Furniture, Vandergrift, held a range training meeting prior to the White Glove campaign, with sales personnel doing some actual cooking.

Selling refrigerators from a trailer parked beside the store was the gimmick used by Brownsville Siding & Roofing to move this appliance. The first day this stunt was tried, the firm sold nine refrigerators from the trailer.

May-Stern's is finding the freezer-food plan a valuable merchandising tool at its New Kensington, Butler, Charleroi, and Greensburg stores. Newspaper advertising, direct mail, and window displays are used to arouse interest in the plan. Plan managers in each store follow up all inquiries.

design depends on Bundyweld ruggedness





At right: The completed condenser is removed from the 900-ton press. In the mechanical clinching of Bundyweld to the steel plate, hundreds of tons of pressure are applied. Shown above: Condenser plate in position at the rear of the box.

As a manufacturer of refrigeration equipment, you know how important it is to keep as much of the tubing surface as possible in contact with the condenser plate. But sometimes you have difficulty in getting tubing to conform to your demands. The tubing won't bend, is hard to handle, or is not strong enough to survive the manufacturing operations.

You need look no further for the solution to these problems, for the answer is quite simple — you need Bundyweld Tubing.

The inherent characteristics of Bundyweld permit you to bend it safely, to short radii. Thinner-walled Bundyweld is stronger, leakproof. It has high thermal conductivity, and takes easily to standard protective coatings. And, whatever way you wish to attach it — mechanical clinching, weld, or braze — it holds fast, permanently!

You can solve your tubing problems with Bundyweld! Remember, Bundy offers expert engineering services to help you with your tubing problems, and has unbeatable fabrication facilities. You get custom packaging, and prompt, on-schedule delivery, too! Call, wire, or write us, today, for further information.

BUNDY TUBING COMPANY • DETROIT 14, MICHIGAN

BUNDYWELD TUBING®

DOUBLE-WALLED FROM A SINGLE STRIP

Bundy Tubing Distributors and Representatives: *Cambridge 42, Mass.:* Austin-Hastings Co., Inc., 226 Binney St. • *Chattanooga 2, Tenn.:* Poirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • *Chicago 32, Ill.:* Lapham-Hickey Co., 3333 W. 47th Place • *Elizabeth, New Jersey:* A. B. Murray Co., Inc., Post Office Box 476 • *Los Angeles 58, Calif.:* Tubesales, 5400 Alcoa Ave. • *Philadelphia 3, Penn.:* Ryan & Co., 1717 Sansom St. • *San Francisco 10, Calif.:* Pacific Metals Co., Ltd., 3100 19th St. • *Seattle 4, Wash.:* Eagle Metals Co., 4755 First Ave., South *Toronto 5, Ontario, Canada:* Alloy Metal Sales, Ltd., 181 Fleet St., E. • Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

SUPER-FLO
FILTER-DRIER

MOLDED REMCAL DRYING
FIBERGLAS DEPTH FILTERING

Check Super-Flo's amazing low price, for both original equipment and replacement, against ordinary driers which do not have Super-Flo molded drying elements, massive fiberglas depth filters and spun-end copper shells. Available to the trade through wholesalers everywhere.

REMCO INCORPORATED ZELIENOPLE, PA.

Plasti-Kote INC.
America's foremost manufacturer of self-spray enamels, lacquers, and other aerosol consumer products.
WRITE FOR CATALOG

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

Verse of the Week

Look at the birdies, fellows,
And note how it never fails
That the brightest of reds and of yellows
Are worn by the wing-flapping males.
The lesson, you men, is apparent
(As plain as the coat on your back).
Come, put on the duds you now daren't
And give up the gray, blue, and black.
Wear suits that are gay and exotic,
Wear wild and incredible ties.
To the girls you'll be highly hypnotic,
Though you may get the bird from the guys.

—MRS. E. M. MURPHY

Satire from England

"We have moved a long way from the belief that the way to prosper was to make better goods cheaper; from the belief that, if you can make a better mousetrap, the world will beat a path to your door. Nowadays we prefer a gentleman's agreement that other people will buy our second-class mousetrap if we will buy their second-class cheese." — *London Economist.*

Philosophy of the Week

Our high respect for a well-read man is praise enough of literature. —EMERSON.

Books are man's rational protest against the irrational, man's pitiful protest against the implacable, man's ideal against the world's real, man's word against the cosmic dumbness, man's life against the planetary death, man's revelation of the Good within him, man's repartee to the God without him. Whoever touches a book touches not only "a man" but Man. Man is the animal who weeps and laughs—and writes. If the first Prometheus brought fire from Heaven in a fennelstalk, the last will take it back—in a book—JOHN COWPER POWYS.

More Laughs

Old Ozzie pled guilty to a trumped-up paternity charge, paid out $3,000 to the floozie "victim," and was sent to jail.

"Pal, I can't understand you," expostulated his closest friend. "You know you weren't guilty."

"Nope, but it was so *flattering.*"

Devastating Last Line

Friend Jim is a Senior Executive. Can afford "a maid" for his wife. When this household helper quit her job she left a pregnant note to Jim's wife:

"I think I ought to be kind and give you some advise about maids. You should improve yourself. If you want to keep a maid, don't get her up so early in the morning. You should have more motion picture magazines around the house. You should train your children better. The maid's room needs a new radio. Have more chicken and less hash. Remember, a maid has troubles of her own and is human same as you are.

"Don't entertain so much and put a new mattress on the bed in the maid's room. No maid should have to carry out garbage. You should get some new equipment. That washing machine is awful and the iron won't stay on.

"Maids are willing to work but you shouldn't expect one maid to be also a laundress, cook, washlady, carpenter, electrician, and plumber.

"Don't snoop around in the maid's room to see if she has stolen something. I hope you don't mind my kind advise.

"P.S.—Get yourself a new husband!"

Overlooked News Item

The Eisenhower farm house near Gettysburg, Pa., is being air conditioned.

Out of Our Mailbag

August Tremmel & Son
Water and Croesus Sts.
Biloxi, Miss.

Editor:

I am very sorry I have waited so long to drop you a note. It has been many years since I have seen you, in fact, not since you were going to school at South side and I at North side in Marshall.

My father is Dr. P. P. Hazlitt and is still practicing medicine here on the Coast.

I well remember the old Drug Store and many a "tin roof" your Dad fixed for me.

I was in Marshall last year for the first time in about fifteen years. Not too much change except in people and their faces. I suppose you get back quite often.

Do you ever get down South? If ever the opportunity presents itself would appreciate your dropping in Biloxi way as I really would enjoy seeing you again.

We handle Carrier here on the Coast, their complete line, and you can rest assured we appreciate your publication.

With the kindest of personal regards, I remain

BERNARD P. HAZLITT

Alfred Teves KG
Frankfurt/Main
Rebstocker Str. 41-53

Editor:

I would like to ask a favor and hope you won't mind it. The following question came up.

The German Refrigeration Industry has appointed a Joint Committee, the "Arbeitsgemeinschaft Kalte-Industrie" whose task it is to standardize the definitions of all terms used in connection with refrigeration machinery systems and parts similar to the method shown in the ASRE standard 15 R "Safety Code for Mechanical Refrigeration." It is intended to make these German standards coincide in every respect with the American standard definitions. This will not be an easy task because the German expression does not include always all the component parts of the systems which the American translation of the word would cover. This standardization is necessary for the foreign correspondence, but at the moment especially for the transactions with the U. S. government and the Armed Forces.

Our firm makes use of the definitions given in the ASRE standard 15 R and we here know of no better source. The reason for this letter is, that the German committee would like to know whether these definitions in the ASRE standard 15 R are the final, official descriptions to be used in the U. S. industry generally and especially before a court of law, or whether there is now or will be later a still higher official standard. We realize, of course, that the American Standards Association (ASA) represents the ASRE, too.

I hope that I do not intrude on your valuable time too much with these requests, and that you will be in a position to give me some definite answer.

You may rest assured that the European Refrigeration Organization will be very grateful to you for your valuable assistance. I am thanking you for your trouble and I hope to be able to be of service to you in return soon.

You know that our firm is an old subscriber to your very interesting and valuable publications.

With best personal regards to you and your associates.

MANUEL (MIKE) LASSEN

ANSWER:

Dear Mr. Lassen:

At present the ASRE standard definitions are as "official" as anything of this nature can be in the United States of America.

They have no legal standing; nor can I conceive of any set of industrial terms having legal stature in our Free Enterprise nation.

Will there later be a "still higher official standard"? All we can say is that none is in sight. But who can foretell the future?

GEORGE F. TAUBENECK

Staff Memo

GFT: Did you ever come across a more polite way of suggesting that a person might not be telling the whole truth than this phrase from a government report on an unfair labor practices hearing: ". . . did not impress the undersigned as a witness steeped in candor. . . ."

JOS

"Stories of the Week"

In Handy Form

In response to hundreds of requests from AIR CONDITIONING & REFRIGERATION NEWS subscribers, the conductor of its "Inside Dope" column has collected and grouped his best "Stories of the Week." They are now available in convenient book-form for your reading and working pleasure. The book is entitled: "You'll Love This One."

Everyone will enjoy reading this book, we hope, but for the salesman—and for anyone who may be called upon to "say a few words" at a meeting—it should have especial appeal.

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- Made under strict quality control from start to finish

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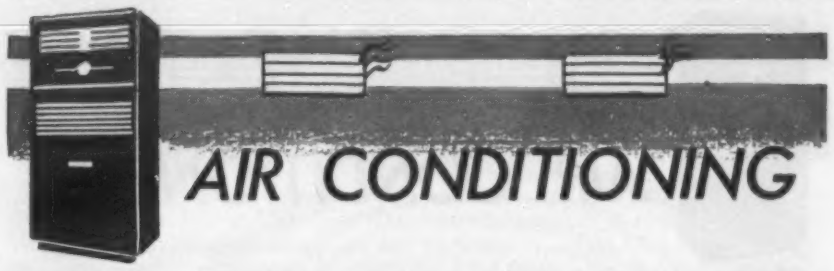


Children's Memorial Hospital, Doctors Bldg. Will Be Air Conditioned In Omaha, Neb.

OMAHA, Neb.—Two major air conditioning projects exceeding an estimated $150,000 are scheduled to get under way here this year.

Contract already has been let to air condition the Children's Memorial hospital, while construction is expected to start later this spring on a $2,500,000 Doctors building at 44th and Farnam Sts.

J. J. Hanighen Co. of Omaha was awarded a contract for $42,997 to air condition Children's hospital. Completion of the work has been set for this coming June. It will be the first completely air conditioned hospital in Omaha, according to W. A. Sawtell, vice president of the board of directors.

Ducts were installed for air conditioning when the hospital was built, thus materially reducing air conditioning cost now. Work to be done includes installation of a cooling tower, grilles, temperature control units, coils, and compressors.

It will provide warm fresh air in the winter and cool fresh air in the summer, Sawtell pointed out. Temperature in any section of the hospital may be controlled separately.

Dr. Gerald C. O'Neil, president of the hospital staff, said hospital-wide air conditioning will have a favorable effect on the condition of the youthful patients. Temperature and humidity control are important to the comfort of sick children, he stated.

He further noted that in the summer, when humidity and temperature are high, a child's temperature may be harder to control.

Benefits of having complete air purification also were stressed by Dr. O'Neil. Bacteria which might occasionally cause cross-infection will be eliminated, he declared. Convalescence during hot weather should be speeded by the air conditioning program, he concluded.

The Doctors building, to be built by World Publishing Co. of Omaha, likewise will be air conditioned throughout. Architect is John Latenser & Sons of Omaha, while the Walter C. Johnson Co., consultant in design, will be the managing agent.

The building will be a part of Omaha's growing Medical Center. Nearby are the facilities of the University of Nebraska College of Medicine, the University hospital, Children's Memorial hospital, Nebraska Psychiatric hospital, and Clarkson hospital. Also near at hand will be a rehabilitation center and school for crippled children, which is now in the planning stage.

The eight-story structure will feature modern air conditioning controls, according to a spokesman for the Johnson company. There will be special, commodious air conditioned waiting room facilities for persons who accompany a friend or relative to the Doctors building.

Each of the 100 offices in the building, along with the first-floor lobby, pharmacy, brace shop, optical company, and surgical supply shop, will have air conditioning controlled by "automatic brains."

Tips on Locating, Installing Cooling Towers

DETROIT—Some tips on the installation of cooling towers was offered to refrigeration servicemen by R. V. Martelli, sales engineer for the Marley Co.

Addressing the annual convention of the Michigan State Association of the Refrigeration Service Engineers Society, Martelli noted that it didn't make any difference whether the tower is mounted on the roof or on the ground so long as the location provides good air circulation.

He advised against putting the tower in small courts where the air cannot get at the tower. He suggested that the inlet side of a mechanical draft tower be placed no closer to a facing wall than the width of the tower. A natural draft tower should be no closer than 1½ times the height of the tower.

KEEP PUMP MOTOR AWAY FROM SPRAY

He noted that while the tower motor is usually totally enclosed, the circulating pump motor is not. So the pump motor should be kept out of range of tower spray. If this can't be done an enclosure should be put around it. Similarly, the disconnect switch should not be mounted on the tower itself.

Where a tower is installed indoors and inlet and discharge air is ducted to it, an effort should be made to keep the discharge air and inlet air separate. Efficiency is reduced, he noted, if the discharge air is drawn back through the tower again before it can get rid of its heat.

FAN BELTS SHOULD HAVE GUARDS

When a tower is mounted on the ground, a fan belt guard should be installed to protect people, particularly children, from getting fingers caught on the belt.

Adequate support should be supplied to the pump motor in order to prevent vibration and noise, Martelli said. He cited instances where pump motors were supported only by a 2 by 4, or a small metal pipe.

Though a neat customer may insist on one, there is no need for a basin cover, Martelli told the servicemen. The basin is an important inspection point, he said. There should be 1½ or 2 in. of water in the basin. If there isn't any, it indicates that the pump is too small or there is something amiss in the system.

BLEED-OFF SYSTEM

A bleed-off system, where by a small amount of water is drained off the tower continually, will keep dissolved minerals in the water down to four times the amount of minerals in the make-up water, Martelli said. A bleed-off of .3% will keep the tower reasonably clean of dissolved minerals, he asserted.

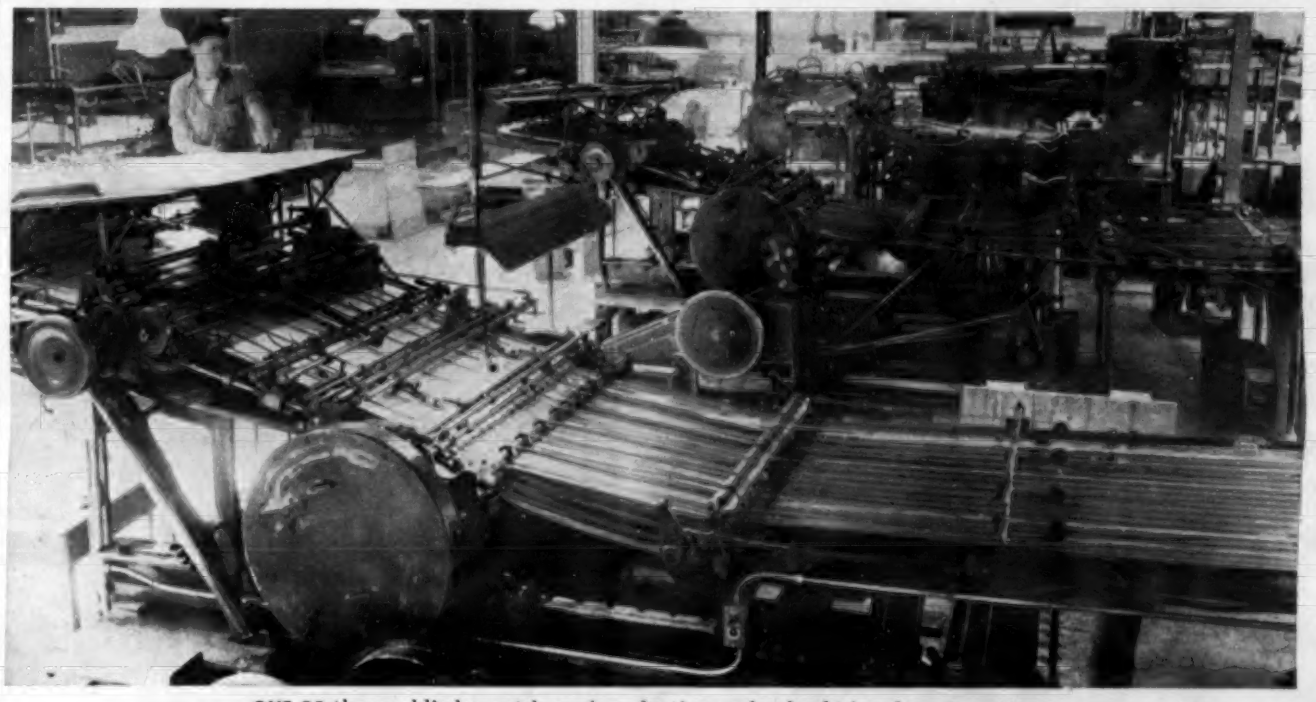
Martelli explained that one of the aims of tower designers is to keep the water in suspension for as long as possible. He noted that in early designs of natural draft towers water was sprayed upward in the belief that this would keep the water in the air longer.

However, spray heads are pointed directly downward in current designs, he said, because this creates a wind velocity of 1½ m.p.h. As the tower capacities are rated on the basis of a 3 m.p.h. wind, the water velocity helps to keep the tower operating at rated capacity even on still days.

This velocity is lost with the upward pointing spray, he noted.

Elliott-Williams Names Rogers As Far-Western Representative

INDIANAPOLIS — Elliott-Williams Co., manufacturer of walk-in coolers, freezers, and cooler-freezer combinations, has announced the appointment of Charles R. Rogers, San Mateo, Calif., as far-west representative covering California, Nevada, Arizona, Utah, and western Texas.



ONE OF the world's largest bronzing, dusting and calendering departments at work in the new completely air conditioned Consolidated Lithography plant.

How to sell air conditioning to lithographic and printing plants

When you call on printers or lithographers consider discussing humidity control, because prospective customers in these fields are interested in control of atmospheric moisture. These men who work with paper constantly will tell you how it absorbs water from humid air and expands like a sponge. This expansion makes it hard to print colors in registry with one another. It also causes edges to ruffle and wrinkle as the paper runs through the presses, making printing difficult.

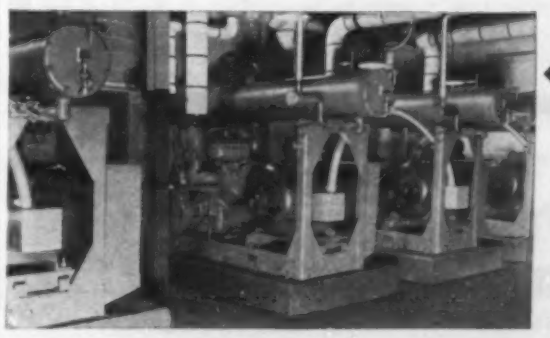
Air that is too *dry* is troublesome, too. The paper shrinks, again throwing the printing register out of alignment. And it generates static electricity, which interferes with the smooth operation of high-speed equipment and makes the paper hard to handle efficiently.

You could tell potential clients in printing and lithography how these problems are met by the Consolidated Lithographing Company, Long Island, New York. In its new 220,000-square-foot plant in Carle Place, Consolidated Lithography has an air conditioning system charged with "Freon-12"* dichlorodifluoromethane. The equipment holds relative humidity in the plant to a rigid 50%, thus solving the paper-handling problems and at the same time offering the usual advantages of healthful, efficient working conditions for employees.

"Freon" refrigerants offer long-term advantages in commercial use

Taking the long-range view, it's easy to see the advantages of specifying "Freon" fluorinated hydrocarbon refrigerants—the purest, driest, most consistent refrigerants made. Du Pont's rigorous Statistical Quality Control keeps the quality of "Freon" so high that these refrigerants contribute much to long, efficient and trouble-free equipment life. And, of course, "Freon" refrigerants are safe. You'll be serving your clients' best interests when you specify Du Pont "Freon" refrigerants for every installation. And you'll find it easier to sell to prospective customers if you tell them you use "Freon" . . . and why.

Write for further information or for Du Pont's free booklet "How Air Conditioning and Refrigeration Benefit Industry." E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division 24, Wilmington 98, Delaware.



THESE FOUR *Worthington 6HF6* compressors, each equipped with a 100-h. p. motor and starter, circulate the "Freon-12" and develop approximately 500 tons of air conditioning. The plant also uses two shell and tube water chillers, operated with "Freon" refrigerants.

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DU PONT

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. . . with temperature scales for

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The finest of testing instruments have been made still better. Pictured above are the new models of Marsh pressure and compound testing gauges . . . with two scales in color showing corresponding temperatures of Freon-12 and 22 . . . with greater pressure ranges in both gauges.

In the Compound gauge, the important retard scale has been increased to read from 0 to 80 lbs., and maximum reading is increased to 250 lbs. The range of the pressure gauge has also been increased . . . to 400 lbs.

Their precision bronze-bushed movements give them the remarkable accuracy of 1% of reading. Like their distinguished predecessors, they have the handsome, highly-polished brass cases with sparkling beveled-glass crystals. Threaded rings make it easy to remove the crystal, giving instant access to the Marsh "Recalibrator"—quickest and best way to maintain the high degree of accuracy vital to testing. Gauges are standard with ⅛" N.P.T. male bottom connection with restriction screw in connection. Dial size, 2½".

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Steam Turbine Powers 610-Ton Conditioning System In William Beaumont Hospital

ROYAL OAK, Mich.—What is claimed to be the first completely air conditioned hospital in Michigan, the William Beaumont hospital here, also is a bit unusual in that it uses a steam turbine to power the 610-ton air conditioning plant rather than the more usual electric motors.

The steam turbine was selected, it was indicated, in order to permit the hospital to get the greatest use out of its steam boiler. The boiler supplies heating in winter and then steam for operating the York centrifugal turbo-compressor in summer.

The hospital, a five-story structure with 236 beds divided among semi-private and private rooms on the upper three floors, was opened to the public last January. It serves a suburban Detroit area of about a quarter million people.

The upper three floors are cooled by York fan window type unit air conditioners that can be individually controlled. These units are fed pre-conditioned air from a central point in the basement. This air is cooled by passing over a chilled water coil.

The first two floors of the hospital are cooled by a central duct system from built-up air conditioning and heating units in two equipment rooms. Reheat coils—using hot water for reheat—are inserted in the ducts to provide the degree of cooling needed in particular areas.

In the patients' rooms, design temperature is 75° F. at 50% r.h. The air conditioners are constructed so as to permit the entry of primary air underneath the unit where it mixes with recirculated room air before entering the 1-in. thick filter or the cooling coil. Water in the coil is at approximately 50° F. for cooling and 180° F. for heating. Actually, the circulating water enters the chiller at 57° F. and leaves at 42° F. It circulates at the rate of 1,000 g.p.m.

In all there are 150 of the window fan units in the patients' rooms, lounges, and offices. They vary in capacity from 60 to 127 c.f.m. The majority, however, are in the 60 to 82 c.f.m. range.

Thermostats automatically control each individual unit by operating an automatic water valve on the unit. The water valve has a setting for either "winter" or "summer" operation. For cooling, it mixes chilled water with return water to supply 50° F. water through the pumps and back to the units. Mixing control is done by an Accritem regulator in the discharge line of the three-way control valve.

The patient has further control of his individual unit through a three-speed fan switch, which permits him to turn the fan off, or set it on medium or high speed. However, even when the fan is off, the pressure of the central air system pushes fresh air into the room, giving the room air a constant circulation. This fresh air is pre-cooled to 76° F. Louvers are adjustable.

For those patients who feel that they are not getting fresh air when the window is closed, the Thermopane window has a small section that can be opened to give the patient "fresh" air.

The York turbo-compressor that supplies the refrigeration for this system is a model 2GXF2G4, using "Freon-11." The turbine works on 140-lb. steam saturated. It is controlled by water temperature in order to maintain a constant temperature in the coils.

Condenser water at 85° F. is first circulated through the refrigerant condenser where it picks up 10° of heat. Then it goes to the steam condenser at 95° F. where it picks up another 12°, entering the cooling tower at 107° F. The two-cell tower, which is located at ground level behind the boiler plant, cools water to 85° F. again.

Condenser water circulates at the rate of 1,850 g.p.m.

The built-up units in the two equipment rooms have separate coils for heating and cooling. In one room is a 15-hp. unit with 22,000 c.f.m. supply fan for the dining room and kitchen. The same room also contains a 10-hp. unit with a 15,000 c.f.m. fan to serve the operating room.

In the second equipment room are a general supply unit with a 20-hp. motor and 28,000 c.f.m. fan, another general supply unit with 15-hp. motor and 16,325 c.f.m. fan, a primary air unit for the room air conditioners with a 7½-hp. motor and 15,000 c.f.m. fan. Trane convectors and McQuay coils are used with these units.

To meet special requirements, humidifiers have been installed in the nurseries and the emergency operating rooms.

The air conditioning equipment for the hospital was installed by the Johnson Larson Co. of Detroit, which received the plumbing, heating, ventilating, and air conditioning contract. T. A. Wood was the engineer on the project and Edward T. Connolly was construction superintendent.

Other refrigeration equipment installed at the hospital included four kitchen walk-in boxes for fruits and vegetables, meats, dairy products, and frozen foods; a morgue box held at 35° F., a drinking water cooler with 50-gal. storage capacity, two cold pan units in the cafeteria, and three Carrier ice makers with 350 lbs. daily production capacity plus 200 lbs. storage.

New Air Conditioning Firm Is Organized In Memphis

MEMPHIS—With Dayton Smith as president, Worth Products Corp. has been organized here to engage in the air conditioning business, according to a recent announcement.

The new firm, located at 884 Linden, has been awarded a 39-county distributorship of Worthington Corp. According to Smith, the new firm will distribute to dealers in the counties outside of Shelby in the mid-south area, and in Memphis it will sell, engineer, and install air conditioning systems.

Vice president in charge of engineering for Worth is Bruce M. Reid, who has been affiliated with the refrigeration field all of his mature life. H. F. Howell, for several years in the equipment field in Memphis, will be sales manager.

Heating, Air Conditioning Specialist Opens In Toledo

TOLEDO—Joseph L. O'Connor and Robert J. Wall announced the formation of Wall-O'Connor Co., which will specialize in heating and air conditioning. The firm will be located at 839 Alexis Rd.

O'Connor, a business administration graduate of the University of Toledo, was formerly sales manager of Heigel & Long, Inc.

Wall, who attended Milwaukee School of Engineering, has directed engineering functions for several heating firms, including Heigel & Long.

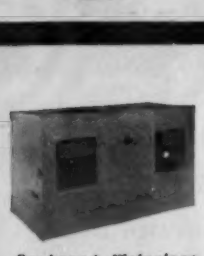
Lau Announces 'Summertime' Tie-In Promotion

DAYTON—E. V. Sullivan, fan sales manager of Lau Blower Co., announces that a nationwide promotional campaign has been worked out between Lau and United Artists, distributor of the new Katherine Hepburn film "Summertime," recently produced in Venice, Italy.

Theater owners across the nation will be co-sponsoring "Summertime" contests, which will feature trips to Venice as first prizes. Lau supplied United Artists with 85 fans—a value totaling more than $5,000 as additional prizes, Sullivan said.

Theater owners will be cooperating with local retailers in promoting "Summertime" and Lau fans. United Artists will supply promotional kits to theaters and will work with retailers in a strong effort to promote contest interest and publicize the movie, according to Sullivan.

"Summertime" contestants will be asked to write why they would like to spend a two-week vacation in Venice.



Packaged Waterless (Air-Cooled) Air Conditioners—no water needed, no plumbing required. 2, 3, 5 and 7½ H.P.

Packaged Water-Cooled Air Conditioners in 6 models, from 2 to 15 H.P.

Airtemp pioneered in "Packaged" air conditioning 18 years ago! This experience has made Airtemp the leader in its field!

Yes, *experience* pays—and it will pay you to find out about a high-profit Airtemp franchise, because:

You make more sales—when you're with a *pioneer!* Airtemp pioneering got "Packaged" air conditioning off to a start in 1937. This engineering leadership has kept Airtemp well ahead of the field—in product acceptance, quality and sales.

You make more sales—when you handle a *complete line!* Airtemp makes 10 different models—a complete range for every customer's need. Both water-cooled and waterless. From 2 to 15 H.P. And *only* Airtemp gives you time-tested 5 and 7½ H.P. air-cooled, waterless models.

You make more sales—when you sell the *leader!* More Airtemp units are in use than any other make. This means there are more *active* "salesmen"—our satisfied Airtemp customers—who make selling easy for you.

You make more sales—when you represent a *specialist!* Airtemp makes air conditioning equipment exclusively—*nothing else.* So all of Airtemp's experience is focused right on your sales requirements.

You make more sales—when you're backed by *advertising!* Airtemp runs regular, hard-selling advertising campaigns. And this powerful force influences and *persuades* your best prospects—the store and building owners that offer the most potential for you.

You can receive full information on how Airtemp Packaged Cooling Franchises are bringing big profits to dealers. Write to: Airtemp Division, Chrysler Corporation, Dayton 1, Ohio.

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Egg-Holding Room Will Keep Quality High For Higher Prices, Research Group Finds

RALEIGH, N. C.—Research conducted at the North Carolina Experiment Station indicates that an above-ground, refrigerated egg-holding room will enable poultrymen to maintain the high quality of their eggs and thus get a higher price for them.

Station poultrymen said they have had good results with such a room for both hatching and market eggs. It seems to be an answer to complaints by large packers that eggs from eastern North Carolina are of low quality, they reported.

The 8-ft. by 10-ft. room was insulated and a refrigerating unit installed at a total cost of slightly over $600. The room can hold more than 50 cases of eggs, enough for a producer with up to 2,000 layers. The room should be practical for poultrymen with 500 hens or more, it was stated.

At the experiment station, the temperature is kept at around 60° during the normal one to two weeks holding period. Relative humidity is about 70%.

To store eggs for four weeks, it was pointed out, the temperature should be held at 45 to 50°, then gradually brought up to 60° just before removing the eggs. This avoids "sweating."

Regarding costs, "suppose the poultryman has 1,000 hens each laying 15 dozen eggs a year," it was stated. "If he can get an average of two cents more per dozen due to better quality, he'd be earning an extra $300 for his eggs. Cost of operation averages only about $4 per month during the summer.

"During late spring just before egg prices rise after the spring glut, the poultryman could earn about $30 more (figuring two cents a dozen more on 50 cases of eggs) simply by holding eggs in a refrigerated room for four weeks."

Method of Preserving Corneas by Freezing Developed at Naval Medical Center, Md.

BALTIMORE—Long sought by the medical profession, a method of freezing and preserving of corneas of the eye for periods of several months has been developed at the Naval Medical Center at Bethesda, Md.

Experimental eye work done at the center was described by Lt. (J.G.) J. W. Draheim of the Naval Reserve Medical Corps at the 14th clinical meeting of the Wilmer Ophthalmological Institute at John Hopkins hospital.

The cornea is the important transparent covering over the iris and pupil of the eye.

The nation has only a small number of eye banks at present. Because of the difficulty of preserving the living cells after the cornea is removed from an eye donor, the banks operate on an extremely short-term basis.

Draheim reported that animal corneas have been preserved for several months at Bethesda. He explained that the cornea is first immersed in a glycerol solution for an hour. Next, it is put into a test tube which is immersed is another solution at -79° C.

The cornea is then stored at that temperature in a box filled with dry ice. It is thawed when needed by immersion in warm water.

Previous attempts to preserve corneas have shown a loss of cellular life. The animal corneas used in the Bethesda experiments seem to retain their cell life for several months, Draheim further stated.

Commercial Refrigeration

Ten Requirements of Mobile Truck Refrigeration Systems Outlined

DETROIT—Ten requirements of a mobile truck refrigeration system were outlined recently by Dan Pillow, sales engineer for the Kold-Hold Div., Tranter Mfg., Inc.

Speaking before the Michigan State Association of the Refrigeration Service Engineers Society, Pillow said a mobile system should:

1. Develop the required capacity under maximum conditions.
2. Be very dependable and suitable for heavy duty.
3. Not be noisy.
4. Not require frequent service or replacement in whole or in part.
5. Have provision for standby operation from public utilities.
6. Not interfere with regular vehicle servicing.
7. Be simple for a mechanic or refrigeration serviceman to service.
8. Not be rendered inoperative by normal frost accumulation.
9. Cause no undue load on the vehicle electrical system.
10. Where local laws prohibit engine operation of a standing vehicle, use light, heavy duty hold over plates to carry the load during stops.

Pillow pointed out that the determining factor in whether to select hold over plates or a mobile refrigeration system is weight. He noted that hold over plates are heavy and mobile refrigeration units are used where the owner wants to save weight.

He pointed out that another advantage of a model refrigeration system is that, when using serpentine plates, these plates will hold a better temperature than will the hold over variety. In addition, with serpentine plates, a higher suction temperature can be used, getting more capacity from the compressor.

A mobile refrigeration system, he said, can use hold over plates, serpentine plates, or a blower coil.

In discussing refrigeration by hold over plates, Pillow stressed that the thickness of the eutectic plate has nothing to do with the temperature held. The total plate surface determines the temperature, he said, while the thickness determines how long that temperature will be maintained.

Most practical hold over system, he said, is a central ammonia system where trucks can be plugged into the system when they are not on the road.

Next most efficient system and the system most commonly used, is a "Freon" compressor mounted on the truck and equipped with fittings so that it can be plugged in wherever public power is available.

New Refrigeration Formula Adds Weeks of Marketing Time for Flower Producers

REDONDO BEACH, Calif.—A new refrigeration formula being used extensively for the first time this year is adding 10 weeks of marketing time, worth many thousands of dollars, to producers of choice flowers located in this area.

Blooms are stored dry at 31-32° F. After 10 weeks, they exhibit the exact keeping and shipping qualities found in blossoms fresh from the fields.

Fields were cleared by Easter at the Paul H. Lambert gardens here, but market requirements were being met for the longer period from a large walk-in refrigerator.

Announcing...
NEW Paragon water spray defroster at
55% SAVING
Now Only $34.50
for • Locker Plants • Unit Coolers • Walk-in Boxes • Fur Storage • Breweries • Dairies

NEW WS24 gives you
✓ ONE DIAL
✓ ONE MOTOR
✓ NEW COMPACT DESIGN

YES, Paragon engineering advancements score again for you—3 important ways! (1) You get tremendous savings — *from $78.00 to $34.50.* (2) Only one dial and one motor. (3) New compact size saves 4½" in width over former model . . . makes WS24 easier to install. And, of course, you get Paragon's usual service warranty plus a nation-wide service organization. Order a stock of WS24's today from your jobber, or write Department 1687.

ONE CONVENIENT DIAL for setting frequency of defrost (1 to 24 cycles daily) as well as duration of cycle. Switch can be manually operated to check continuity of circuit. Heavy-gauge steel baked enamel case is 10¾" x 5¾" x 4¼". Knockouts, both sides, bottom and back.

TWO SIZES: WS24 (120-v-60 cycle) $34.50
WS24-3 (240-v-60 cycle) $35.50

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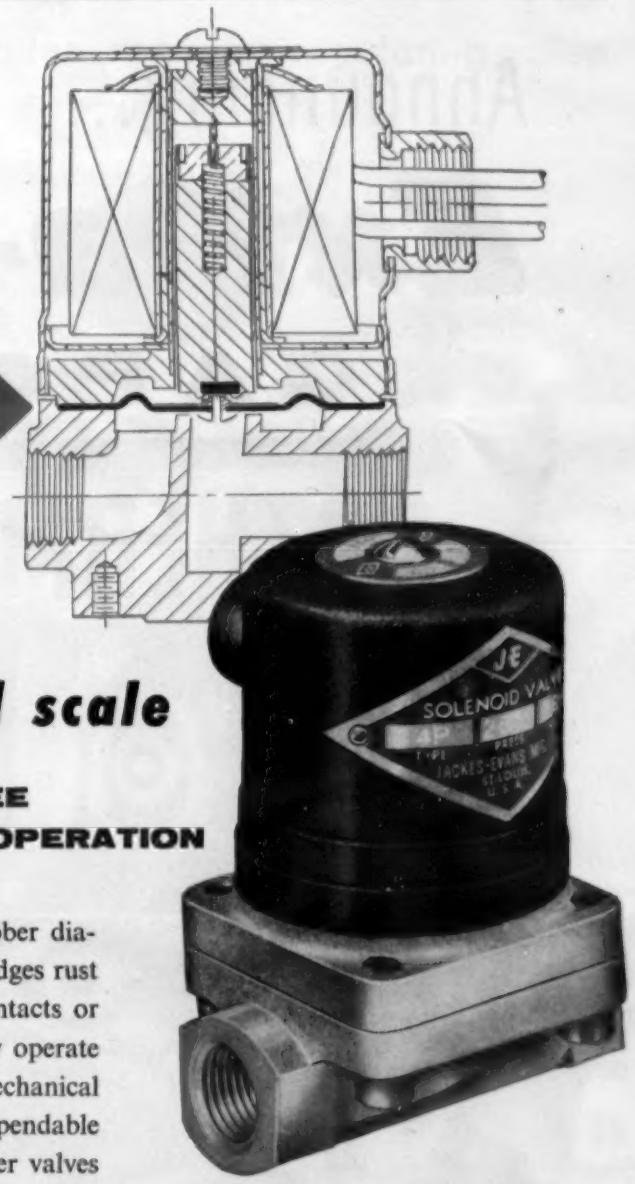
This synthetic rubber diaphragm in JE Solenoid Valves *shrugs off rust and scale*



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The flexing action of the resilient synthetic rubber diaphragm in J-E Solenoid Valves constantly dislodges rust or scale that so often clogs metal to metal contacts or sliding piston surfaces in ordinary valves. They operate quietly because there is no impact action or mechanical linkage to cause noise. They are especially dependable in cooling or heating water systems where other valves fail because of dirt, rust or scale in the line.

Only J-E advanced design solenoid valves provide these unique advantages. Because of their quietness, efficiency and dependable, trouble-free performance, they are the ideal controls for air conditioning in hotels, offices and other multi-room installations.

For complete information on why J-E Solenoid Valves are first choice of the country's leading manufacturers of air conditioning and refrigeration systems, call your wholesaler or write direct today.

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SOLENOID VALVES
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JACKES-EVANS MANUFACTURING COMPANY
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AIR CONDITIONING & REFRIGERATION News

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F. M. COCKRELL, *Founder*

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How To Get Production Out of a Committee

Time of the "one-man show" in business management definitely is over. About the only place you find it today is in the pa-and-ma type of store, and even there pa has to deal with ma.

This is the Age of Group Management, of government by committee. At the same time there is universal recognition of the fact that the committee meeting can be an awful waste of time. There's a gag that goes: "A committee is a collection of individuals who individually can do nothing, and collectively decide that nothing can be done."

Up in Marinette, Wisconsin, there is a young man by the name of Bob Hood who is working out some advanced theories on the subject of committee action. Hood, who is president of Ansul Chemical Co., calls his method "Participation Management."

There isn't space on this page to go into all the ramifications of his possibly revolutionary manner of running a substantial business. Suffice it for the moment to say that Bob's associates are mighty keen about it.

In the matter of getting action from a committee, however, Hood has worked out a number of devices which are worth serious study by every business in our industry. For example, each member of the management team carries this card with him at all times:

Before You Call That Meeting . . .

Ask yourself these questions:

1. What is the purpose of the meeting in relation to what long range goals?
2. What are the hoped-for outcomes of the meeting itself?
3. What is the minimum number of necessary people at the meeting?

Then . . .

Give adequate notice to participants (at least 48 hours). Determine an elapsed time for the meeting—then stick to it.

Before You Attend That Meeting . . .

Get the answers to these questions:

1. What is the purpose of the meeting in relation to what long range goals?
2. What is the task to be performed in the meeting?
3. Who will be there and why?

Next, the meetings are conducted in an informal atmosphere. Nobody sits behind a desk; nor is there a "pecking order" seating arrangement. All are to feel equal, psychologically.

Chief "prop" is the John-Patterson-type huge pad of paper on an easel. (Use of these easels often is termed "the hallmark of a Dayton man.") Said easel is not presided over by one man, as is the customary case. Anybody and everybody writes on it. As the problem is kicked around, committee members don't just talk. They get up and write their ideas on the big pad. When a sheet is full it is torn off and hung on a wall.

Thereafter each suggestion is on view. Nothing important is forgotten. And every man is conscious that he is responsible. His contribution remains, in his own handwriting.

Thus there is both oral and visual participation, plus *physical* participation. It works out that each committee member really feels he is contributing to the ultimate decision. Furthermore, it tends to limit discussion to the most succinct ideas. When a man has to put his thoughts in writing he doesn't ramble or wander. Also it eliminates a lot of unnecessary speeches by men who merely hope to make an impression on others that they are hot-shots.

It is Hood's belief that a committee should *produce,* just like a plant. Hence, as in a factory, the tools and men should be assembled in the right place at the right time, and work smoothly in an orderly fashion.

If you'll go back and look at the "ground rules" printed above, you'll see that a great deal of confusion and time-wasting is eliminated by advance planning.

To our way of thinking this is group management at its best.

They'll Do It Every Time . . . . . Jimmy Hatlo

STRAWBOSS WANTED HIS OWN PRIVATE OFFICE···AND HE CONVINCED THE HIGHER-UPS THUS···
I GOTTA HANDLE EMPLOYEE MATTERS IN PRIVATE! I CAN'T EMBARRASS 'EM BY REPRIMANDING 'EM AT MY DESK IN THE CORNER···
HMM···YES··· QUITE RIGHT··· YOU'VE GOT A POINT THERE··· VERY WELL··
SO HE GOT HIS PRIVATE CUBICLE·· BUT WHERE DOES HE DO HIS SIMON LEGREE ACT?
ANOTHER INVOICE ALL FOULED UP! OF ALL THE DUMB, LAME-BRAINED NIT-WITS, YOU, TREMBLECHIN, TAKE THE CAKE!!
THANX AND A TIP OF THE HATTO HAT TO LEO J. LEONNIG, RFD, LANDOVER, MD.
4-20
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for FREON and AMMONIA

NOW...no job is too large for the KRAMER THERMOBANK

The only completely automatic system for freezing temperatures offering these extra large capacities. THERMOBANK requires no manual attention whatsoever.

Ceiling mounted, THERMOBANK takes no precious floor space. You can store products directly under the unit.

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WRITE FOR BULLETIN 294-6

KRAMER TRENTON CO. • Trenton 5, N.J.

OFF THE CHEST

Arellano Co.
Paseo De Marti No. 203
Habana, S.A.

Editor:

I read "Inside Dope" in every issue of the NEWS, and on Monday mornings it sure helps to lift up the spirit after a hard weekend.

ANTONIO V. ALVARADO

Young Heating Supply, Inc.
312 E. Wayne St.
South Bend 1, Ind.

Editor:

One of our customer-dealers has run across a difficulty in selling a year-round air conditioning system. His prospect claimed that she had been told by people who are subjected to air conditioning, either in the homes or place of work, that it increases a tendency toward arthritis or rheumatism.

We believe this to be a fallacy—probably a carry over from the days when air conditioning systems were grossly over-sized. However, we have been unable to lay our hands on any authoritative source which can be used to refute this prospect's prejudice.

If you have any reprints or if you can cite any references which would tend to allay this fear, please advise us of it as soon as possible.

R. J. YOUNG

ANSWER

Dear Mr. Young:

The charge that air conditioning "increases a tendency toward arthritis or rheumatism" is ridiculous. Such back-fence gossip does crop up now and then, but there is no medical evidence to support it.

We suggest that your prospect consult her own doctor, who surely will allay her unfounded fears.

Articles which have appeared in AIR CONDITIONING & REFRIGERATION NEWS in support of the fact that air conditioning is a health boon, rather than hazard, have appeared in the following issues:

Feb. 28, 1955, page 2; Feb. 7, 1955, page 1; May 10, 1954, page 6; Jan. 11, 1954, page 6; June 8, 1953, page 1; Feb. 9, 1953, page 1.

'Conscience' Editorial Brings Suggestion for Method of Rating, Comment on Comments

W. W. McMillan & Co.
P.O. Box 5064
711 S. Main St.
Jacksonville 7, Fla.

Editor:

Your editorial of March 21, 1955, entitled, "We Can't Build a Good Business on Dishonesty," impresses me as being the beginning of a crusade which could cleanse our industry of so many false claims regarding capacity ratings.

If I am not being too presumptuous, I would like to make a suggestion that the ratings should be as follows:

Watts In-Put	Water Cooled Condenser Water Temp. G.P.M.	B.t.u. Out-Put
.....	70°	.....
.....	75°	.....
.....	80°	.....
.....	85°	.....
.....	90°	.....
.....	95°	.....
.....	100°	.....
.....	105°	.....

For comfort cooling, these ratings should be at 40° evaporative temperature and a set number of G.P.M. and 120 lbs. head pressure.

Watts In-Put	AIR Cooled Condenser Air Temp. C.F.M.	B.t.u. Out-Put
.....	75°	.....
.....	80°	.....
.....	85°	.....
.....	90°	.....
.....	95°	.....
.....	100°	.....
.....	105°	.....
.....	110°	.....

For comfort cooling, these ratings should be at 40° evaporative temperature and 200 lbs. head pressure, and a set number of C.F.M.

If a simple method of ratings were used on each unit, such as above, then I believe even a fourth grade student could understand and decide which type of equipment would operate cheapest for him.

It is very gratifying to see so many of the old-timers in the air conditioning industry so eager to crusade for some method of honestly rating the equipment they sell.

In the event you have reprints available of the editorial of March 21 and also of the April 18 page on "Industry hails Editorial Stand on Ratings," we would certainly appreciate receiving a few of them.

More power to you! If we can be of any assistance, please do not hesitate to call on us.

W. W. McMillan,
President

Electromode Corp.
45 Crouch St.
Rochester 3, N. Y.

Editor:

Your editorial about air conditioning unit ratings was read with interest and approval. The comments thereon were read with interest but not always with approval.

I criticize the blanket statement that water-cooled units are invariably more efficient than air-cooled units. Most water-cooled units develop about one ton per nominal compressor horsepower. They can be so designed that they will develop more than 1.2 tons per horsepower for many moderate and low latent heat loads. It is only higher first cost per ton of cooling that discourages such designs.

While the condensing temperature had considerable influence on wear and tear on the compressor and relative electrical input, its effect on net capacity of the system is small so long as truly excessive head pressures are avoided. The use of high evaporating temperatures (where dehumidification requirements permit) results in markedly greater capacity for the system.

With sealed motor compressors, the nominal horsepower has become quite inconclusive resulting in ratings now at current and voltage but with no satisfactory agreement concerning at what operating condition. I am all for rating actual net capacity with stated current and voltage at an agreed operating condition.

I feel justified in claiming full capacity tested although I would be reluctant to certify over 95% of test capacity for future production runs of a given unit.

It is my contention that an air-cooled unit with adequate condenser surface and air, and operating at a relatively high evaporating temperature, will have as much capacity at 95° air entering the condenser as the usual water-cooled unit operating at lower evaporating temperature with 95° water leaving the condenser. Not only is such a design practical, but to secure the lowest owning and operating cost over the years, I consider it imperative.

Your stand has my applause and full approval. What we all desire are honest ratings, but let us recognize that there are many variables in an air conditioning system and some units are bound to be somewhat higher capacity than others even using similar or identical compressors.

Robert Lee Boyd

To Build New Air Conditioned Office Building In Alabama

BIRMINGHAM, Ala.—Featuring all-weather air conditioning, a modern office building will be built at Wenonah to house headquarters office at the ore mines and quarries works of Tennessee Coal & Iron Div., U. S. Steel Corp. The structure will contain 12,800 sq. ft. of floor space.

'Better Than Cinemascope Et Al'

Air Conditioning Ups Theater Attendance 50%

COLUMBO, Ceylon—In Columbo, capital of Ceylon, only mad dogs and Englishmen go out in the midday sun. No one knows where the dogs go, but chances are the Englishmen head for the New Olympia Theatre. Reason? It's air conditioned.

Air conditioning has proved a bigger business builder for the 19-year-old New Olympia than "Cinemascope," "Wide Screen," "3-D," "VistaVision," and four-track magnetic sound combined, it was reported.

In 1953, the theater management embarked on a program of modernization, the first phase of which included the addition of all of Hollywood's latest screening and sound techniques, for the first time in Ceylon. Only seven months after its world premiere in New York City, "The Robe," with all its technical advances, was presented to Columbo.

During October, November, and December of 1953, following the addition of these facilities, the theater's attendance jumped by one-third over the same period the previous year.

In October, 1954, a 30-ton United States Air Conditioning Corp. RK pre-assembled central station air conditioning plant was installed. Boasting what is said to be the first comfort cooling in a Ceylon theater, the 683-seat New Olympia enjoyed an attendance rise during the following three months of 50% over and above that resulting from Cinemascope et al.

The air conditioning system was installed by the British Electric Co., Ltd.

Judge Just Sweats It Out Till Cooling Comes

WASHINGTON, D. C.—Judge Paul P. Rao of the U. S. Customs Court in New York gets hot under the collar when he talks about the need for air conditioning the old warehouse building where the court is located.

"We have been perspiring and sweating all these years," he testified recently before a House appropriations subcommittee.

"To the left they have a metal stamping machine factory and in the summertime, if you open the windows, you are flooded with dust, dirt, and soot, and noise."

In addition, he said, all the truck traffic to the busy Holland Tunnel lines up just outside the building. Therefore, the judge stated, he installed some air conditioning units.

Judge Rao testified in support of a request for funds to air condition the whole building.

Increase COOLING TOWER EFFICIENCY With ASPIR-JET

Aspir-Jet, the new spray nozzle, increases efficiency of cooling towers by increasing water break-up and improving water distribution. This is accomplished by the Aspir-Jet unique design which atomizes the water with as little as one-half pound nozzle pressure. Formed of butyrate plastic, Aspir-Jets last longer because they do not corrode. Thousands already in use are giving better cooling even with lower than normal pressures.

• Available through Refrigeration and Air Conditioning Wholesalers.

Manufacturers & Refrigeration Wholesalers: If you are not now using or stocking this astounding new product, wire or write

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LAUGH, LEARN, PROFIT! Read

"ONE FOOT IN THE DOOR"

by GEORGE F. TAUBENECK

The funniest and most stimulating book ever written on refrigeration and air conditioning merchandising. Every tested selling idea is illustrated with an hilarious story. Use the ideas *and the stories* in YOUR business.

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Please send a copy of *One Foot in the Door.*
☐ $3 enclosed ☐ Send bill 5-9-55
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NEW Model 65 condenser water regulating valve for heavy-duty service

No water hammer
Lifetime ceramic seat

HERE's more A-P headline news for users of water regulating valves! It's the *all new* "hospital-quiet" Model 65 — for heavy-duty service. Positively no chatter possible because valve is not affected by inlet pressure.

Lifetime ceramic (steatite) valve seats provide maximum resistance to wear and corrosion resulting from high water velocities. Double seat and disc eliminate troublesome pistons and diaphragms. Smaller size assures a more compact installation.

Add all the other great features of the new Model 65 and you'll see why it's right for all types of O.E.M. and replacement applications.

Model 65 heavy-duty
1" and 1¼" sizes
Operates in any position.
Time-proved V-block stem seal — no adjustment or lubrication needed.
Adjustment range: F12 — 70 to 170 psig; F22 — 160 to 240 psig
Resists corrosion — gray cast-iron body, vinyl plastic coated inside and out.
Easily cleaned sediment bowl. Removable without breaking valve water line connections.
Model 65 Standard
⅜", ½", ¾" sizes

Model 65 has sliding seat for automatic cleaning and trouble-free operation.

Positive shut off without water hammer. Stays clean despite dirt, lime or sand. Sizes: ⅜", ½", ¾". 2.7 to 42 gpm capacities. Two types. Adjustment range: (F12 — 65 to 200 psi) (F22 — 165 to 300 psi).

Exclusive A-P feature

Self-aligning valve shoe floats on stem. Bevel design assures clean "wipe" of seat with each valve cycle.

For complete facts — ask the representative who calls on you or write: A-P CONTROLS CORPORATION

DEPENDABLE Controls for Air • Gases • Liquids • Refrigerants

2460 N. 32nd Street, MILWAUKEE 45, Wisconsin COOKSVILLE, Ontario NIJMEGEN, Holland
For Export: 13 E. 40th Street, New York, N. Y., U.S.A.

Residential Air Conditioning

HOW TO USE sub-floor crawl space for heating and air conditioning purposes is evidenced in this photo snapped under the home. The five-room, brick home allots no basement or utility room space for heating equipment.

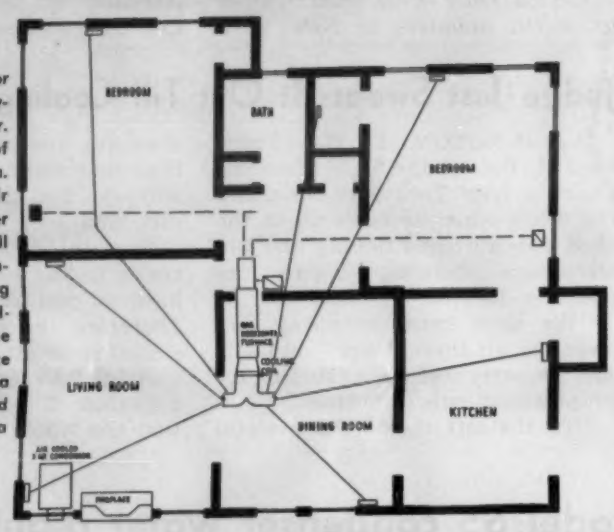


DIAGRAM SHOWS floor plan and crawl space layout of the home of Mr. and Mrs. Frank Rooks, of Heard Ave., Augusta, Ga. Originally, an oil-fired air circulating space heater located in the central hall adequately—but not comfortably—fulfilled heating requirements. In a modernization program, the Rooks removed the space heater and installed a Chrysler Airtemp gas-fired horizontal furnace with a remote air conditioner.

How 15-Year-Old Home Utilizes Sub-Floor Crawl Space for Year-Round Air Conditioning

AUGUSTA, Ga. — How to use sub-floor crawl space for heating and air conditioning purposes is illustrated in the modernized, 15-year-old home of the Frank Rooks on Heard Ave. here.

The Rooks had an 80,000 B.t.u. Chrysler Airtemp horizontal gas furnace suspended from the floor joists under the living room floor, close to the center of the house. For air conditioning, they had a cooling coil placed in the furnace air duct. Refrigerant is piped to the coil from the 3-hp. air-cooled condensing unit which has been placed to the left of and underneath the fireplace in one corner of the house.

Insulated round ducts were built to carry warm or cool air from the furnace to 4-in. diffusers set in the floor of each room next to the outside walls. New ducts bring return air from each of two bedrooms and the central hall.

Sufficient air to cool the refrigerant is taken from the crawl space, passed over the condenser, and ducted outdoors at ground level. The excess moisture removed from the air helps keep a nearby flower bed moist.

With the system, it is pointed out, the Rooks have complete and satisfactory heating and cooling without using any basement or utility room space for equipment.

Before and After Pictures Help, Too!

File of Testimonial Letters Is Powerful Sales Tool for Residential Systems

ST. LOUIS—The most powerful sales tool the contractor can employ in selling the residential market is a file of testimonial letters from satisfied homeowners, according to Gus Mauller, Jr., head of Mauller Air Conditioning Co. here.

Out calling on prospects, Mauller carries a ringbinder containing before-and-after pictures of heating and air conditioning installations, the usual forms, presentation sheets, and manufacturers' literature.

By far the most valuable section, however, is a series of letters which have been written to Mauller by customers, many of them homeowners in the "plush" residential suburbs northwest and southwest of the city.

A typical letter, written by an executive of Paramount Shoe Co. in St. Louis, detailed the complete satisfaction of the homeowner with a 5-ton Bryant packaged unit installed in the basement heating room.

Mauller prizes this letter particularly, inasmuch as the homeowner "confessed" that he had not been convinced that a 5-ton unit would cool a two-story, 10-room home, and that he had likewise installed three small packaged units in the bedrooms on the second floor "just for security."

In writing the letter, the homeowner admitted that he found himself completely wrong and that the 5-ton packaged unit did indeed provide cool comfort between 71° and 76° in every room of the house during hot summer months.

Mauller asked permission of the customer to photostat the letter and include it in his prospectus shown on home calls and received permission. Since that time, the letter has been the "clincher" in signing up skeptical homeowners who feel that their dwellings are too large for adequate cooling with a 5-ton unit, Mauller said.

Other letters of a similar nature have aided Mauller in successfully selling air conditioning in various tonnage and price brackets, with many of them sold "by correspondence only" where the home is located in a remote suburb.

During 1954, the St. Louis contractor successfully sold more than 160 5-ton or greater home installations.

How To Design New Year-Round Systems To Be Highlight of 'Short Course' June 14-17

NEW YORK CITY—"Complete, practical" instruction in how to design the new year-round heating-cooling systems (in combination with hot water and steam heating), plus special new data on zoning, control systems, pipe sizing, equipment selection, and sales promotion, are highlights of the ninth annual Short Course to be held at Urbana, Ill., June 14-17.

Registrations are now being accepted.

Jointly sponsored by the Institute of Boiler & Radiator Manufacturers and the University of Illinois, this year's Short Course also features a special one-day prior session, on June 13, for review of basic IBR methods of heat loss calculations and hot water system design.

This course will be conducted by Arthur J. Wales, IBR technical secretary and widely-known instructor.

Available to all registrants, the special session is also intended as an introduction to the advanced instruction, particularly for those who have not previously attended an IBR School or Short Course.

Designed to meet "widespread requests for advanced but down-to-earth know-how" needed to meet competition on year-round heating-cooling of residences and small commercial buildings, such as motels, the new Short Course, said R. E. Ferry, general manager of the institute, has been "revamped from top to bottom to help fill this urgent need."

Engineer, contractors, installers, and others planning to attend should write at the earliest opportunity to R. K. Newton, Division of University Extension, University of Illinois, Urbana, for registration forms, Ferry advised.

The course is divided into sessions for practical work and lectures. Classroom problems and demonstrations include:

1. Cooling load calculation and advanced heat loss calculations.
2. Design of a separate cooling system for a residence.
3. Design of a heating and cooling system for a motel using (a) single piping system with combination heating and cooling room units and (b) fan-coil units with central chilled water system for cooling and a baseboard heating system. The problem will include zoning, control systems, pipe sizing, and equipment selection.
4. Design of a snow melting system for a residence, including piping layout, controls, and heat exchanger and pump selection.
5. Laboratory demonstrations of engineering principles concerning pump head and flow, combustion, refrigeration cycles, properties of air, piping systems, and pipe friction. A tour of the IBR Research Home and other heating research facilities will also be made.

Lectures will cover:

1. The design and operation of heating and cooling systems as effected by building construction and building orientation.
2. The application of various types of cooling systems to existing and new buildings which are heated with steam or hot water.
3. Properties of air and methods of treating and distributing air for summer cooling.
4. Snow melting systems.
5. Principles of combustion.
6. Results of research conducted at the IBR Research Home.

M-H Plans Common Stock Split, Declares Dividend

MINNEAPOLIS — Stockholders of Minneapolis-Honeywell Regulator Co. recently voted a 2-for-1 split of common stock, which raises the number of authorized shares to 7,880,000, the company has announced. The split is the fourth since the company was formed in 1927.

Directors declared a quarterly dividend of 35 cents per share on the new stock payable June 10 to holders of record May 20. This compares with a dividend of 60 cents a share in the previous quarter.

LENNOX ...the
air conditioning line can save
OVERSIZE CONDENSERS AND BLOWER
FACTORY-INSTALLED FLEXIBLE CONNECTIONS
LIQUID SIGHT GLASS ON HIGH-SIDE
FULL REFRIGERANT CHARGE PROVIDED
FIELD SERVICEABLE SEALED COMPRESSOR
OVERSIZED, REPLACEABLE STRAINER-DRIER
COMPLETE FACTORY WIRED CONTROL BOX—INDUSTRY'S SIMPLEST SCHEME OF FIELD WIRING
The illustration shown is a Lennox remote air cooled condensing unit. Model HSA1 available in 2, 3, 5 and 7½ Hp with evaporator units for upflow, downflow or horizontal air flow with or without evaporator blowers.

Current Literature

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

New Specifications Sheets Offered by Worthington

——KEY NO. Q-520——

HARRISON, N. J.—Specification sheets on new air-cooled condensing unit, remote duct cooling coils, and air-cooled condenser have been issued by Worthington Corp.

Outlined in the two sheets is information relative to features; general specifications on operation, construction, condenser coil, and fans; dimensions; and duct connection sizes. The products are covered by a five-year protection plan for replacement of defective parts in refrigeration cycle.

The air-cooled condensing unit is intended for use with the remote duct cooling coils. It can be used with the duct coils for a complete air conditioning system when hooked up to an existing warm-air heating system.

The air-cooled condenser can be used with residential unit, add-on unit, or commercial packaged unit. Over-size coils are a feature of Worthington's new addition to the air-cooled field.

"Both condensing unit and condenser are designed to operate efficiently in ambients up to 110° F., and are available in 2, 3, and 5-hp. sizes which circulate 2,200, 3,300, and 5,500 c.f.m., respectively, over the condenser coil."

Bulletin Describes Binks Multiple Blower Towers

——KEY NO. Q-521——

CHICAGO—Bulletin 477, recently issued by the Binks Mfg. Co., features new additions to the company's 3-B Series cooling tower line. They are multiple blower tower assemblies with individual motor drives.

The new bulletin explains in detail the design features which make the Series 3-B towers almost completely noiseless and which protect the fan assembly from corrosion by placing the air-propulsion unit in the dry air stream.

New rating tables give data for a wide range of operating conditions, covering tower capacities ranging from 2 to 3 tons of refrigeration for residential installations, to 360 tons for larger buildings.

'Philadelphia Story' Told In Trion Booklet

——KEY NO. Q-522——

McKEES ROCKS, Pa.—An eight-page booklet, "The Philadelphia Story," recently published by Trion, Inc., describes application of Trion electronic air cleaning equipment in the city of Philadelphia.

Trion equipment electronically cleans the ventilation air of practically all particles of dirt, dust, soot, smoke, pollens, virus, and bacteria, according to the company.

The booklet, Geographic Study GS-10, tells of the advantages provided by the equipment in many diversified applications in some of Philadelphia's most prominent office buildings, Convention Hall, department store, industrial plant, food processing plant, hospital, and homes.

Case-History of Church Cooling Presented by Carrier

——KEY NO. Q-523——

SYRACUSE, N. Y.—Advantages of installing year-round air conditioning in churches are graphically presented in a case-history study by Carrier Corp. on this developing new field of activity.

The brochure points out that churches of all denominations have experienced one or all of the following notable improvements after air conditioning was installed:

1. Attendance increased by as much as 44%.
2. Collections increased, and in many instances to a greater percentage than did attendance.
3. Outside noises were minimized.
4. Maintenance costs were sharply reduced.

St. Patrick's Roman Catholic church in New Orleans is one example of increased attendance resulting from the installation of air conditioning, it was stated.

"After the best attendance months of the church year had passed, the new Carrier air conditioning system was turned on," the company said. "Figures recorded by the church staff revealed attendance increased 44% over the best average attendance rate attained previously. And this increase was recorded during the summer—when attendance is normally lowest."

A brief list of Carrier air conditioned churches of varied architecture, construction, and size throughout the country is included in the six-page foldover.

Brochure Tells How Catalogs Are 'Proven Moneymakers'

——KEY NO. Q-524——

NEW YORK CITY—A new free brochure, "Catalogs Are Proven Moneymakers," containing a special section on how to use promotional catalogs to your best advantage, is now available through Nelda Publications, Inc. here.

The special "how-to" material was prepared as a result of the increasing number of inquiries from electrical appliance dealers who feel that catalogs can help them compete more strongly with discount operators and the larger mail-order houses, but don't know how to use them most effectively and profitably. Suggestions are designed to help first-timers as well as veteran catalog users.

Also fully described in this 12-page illustrated brochure are "Electrical Living" and "America's Best Buys," Nelda's two "standard" electric appliance catalogs whose spring editions were distributed in mid-March.

Air-Factors Catalogs Cover Air Diffusers

——KEY NO. Q-525——

MONROVIA, Calif. — Air-Factors, Inc. here, manufacturer of air distribution and air control diffusers and grilles, has announced the recent release of three new four-page, two-color catalogs.

Catalog No. ECCO-103 gives information about ceiling air supply outlets designed for evaporative cooling systems; also those furnished with multi-louvers to balance system or for complete shut-off.

Catalog No. FB-104 covers facts about the FBG.5 "Flexi-Blade" line of forced air heating registers and grilles and include data about FBR.5CH Flexi-Blade cooling registers designed for use where evaporative cooling is used in conjunction with forced air heating.

Catalog No. VC-105 is largely illustrative and includes information about "Air-Factors'" OBD "Opposed Blade" damper series, the AVP "Air Volume" control series, and the MVD "Multi-Volume" damper series.

Easle-Portfolio Serves As Revco Training Aid

——KEY NO. Q-526——

DEERFIELD, Mich. — A single easle-portfolio provides a combination, pre-planned sales and training tool for Revco, Inc., reports J. H. Overmyer, vice president and director of sales.

Overmyer said the piece was expensive to produce, but is serving as a successful educational tool at all levels, from distributor to the dealers' own sales floors.

"At the outset, the portfolio was used in distributor meetings to tell the complete story of the company's latest design advances, and to present the merchandising program for 1955," it was explained. "Distributor salesmen, in turn, used it to present the same story to dealers, and in sales training meetings with dealer sales personnel.

"Deleting the sections describing advertising and merchandising policies, dealer personnel has also used it to advantage in presenting an organized feature-selling story to the consumer."

According to Overmyer, success of this single piece has been so outstanding that Revco will follow a similar sales pattern in the coming selling season.

Barber-Colman Describes Ceiling Diffusers, Returns

——KEY NO. Q-527——

ROCKFORD, Ill. — A new 28-page catalog, F 6597, containing complete information on "Uni-Flo" square and rectangular ceiling diffusers, "Line-O-Flo" ceiling diffusers, and square and rectangular ceiling returns is now available from Barber-Colman Co.

The Uni-Flo square and rectangular ceiling diffusers and returns are designed to match the appearance of acoustical ceiling tile and, therefore, provide an inconspicuous means of air distribution, the company said.

Line-O-Flo ceiling diffusers are of linear design and can be used for either supply or return air, with or without integral fluorescent light units.

In addition to describing these diffusers, the new catalog includes dimension drawings, ordering information, typical installation methods, and performance data.

Condensed Catalog Released By Milwaukee Valve Co.

——KEY NO. Q-528——

MILWAUKEE — A condensed Milvaco catalog of bronze valves for the plumbing and heating industry was released recently by Milwaukee Valve Co.

This 8-page, 2-color catalog covers 55 different types of valves in a wide variety of sizes.

Listed with descriptions, sizes, and weights are gate valves, angle valves, globe valves, check valves, manifold header units, foot valves, strainers, needle point valves, relief valves, and many others.

An easy-to-select bulletin design lets the user see-at-a-glance the right type valve for any installation, according to Milwaukee.

NO. 1 Waterless you up to $75 on every job!

Here's how...

A glance at the illustration at the left will show you a few of the reasons why Lennox air conditioners are so easy to install—profitably. Field labor costs are cut to a minimum; units are factory charged with quantity of Freon required for average job. Wiring is simplified to the point of running line voltage power connections to the "high" and "low-side" units with only three interconnecting low-voltage leads between condensing unit and evaporator.

Lennox air-cooled high sides are the most efficient on the market. They feature 1000 CFM per ton of refrigeration and a full two square feet of condenser area per ton. For example, the 5-ton size uses a full width 18" blower to circulate air over the ten square feet of 4-row condenser surface. In *either* air-cooled or water-cooled models—look to Lennox for the finest, most dependable units. And remember: Lennox knows air distribution better than any other company in the air conditioning field.

SPECIAL VALVE IN LIQUID LINE TO SIMPLIFY LEAK CHECKING AND EVACUATION

Yes, it pays to install... and SELL Lennox!

THE LENNOX FURNACE COMPANY

Specialists in home comfort for over 60 years

Marshalltown, Iowa • Columbus, Ohio • Syracuse, N. Y. • Salt Lake City, Utah
Los Angeles, California • Ft. Worth, Texas • Decatur, Georgia
In Canada: Toronto and Calgary

America's most complete line of home air conditioners

- Air cooled and water cooled
- Complete and additive units
- Single package and remote systems

CLIP AND MAIL FOR THE PROFIT STORY

The LENNOX FURNACE COMPANY
(Address your nearest branch. See locations above)

All right, let me hear the complete story about Lennox air conditioning—and how I can make more money with the Lennox line. This does not obligate me in any way.

Company Name.....
Address.....
City..... State.....
My Name.....

SHAFTS by MODERN

SINCE 1924...

Shafts by Modern now power compressors for the leading lines of commercial refrigeration and air conditioning units. For precision SHAFTS, in quantity, consult us. Send blueprints for quotation.

Modern Machine Works, Inc.
Pioneers in Shaft Manufacture
5354 S. KIRKWOOD AVENUE CUDAHY, WISCONSIN

What's New

When requesting further information on new products, please use "Information Center" form.

Thermador Announces Portable Console Cooler

—KEY NO. E-520—

LOS ANGELES—A new evaporative cooler, the "Thermador Console," has been announced by the Thermador Electrical Mfg. Co. here.

Features of the 1300 CFM cooler Model #TCB-135 include smart styling, portability, and controlled directional air flow.

Console has 16-way adjustable louvers to direct and control constant air flow of cool air. Covered spout insures easy filling of self-contained water supply.

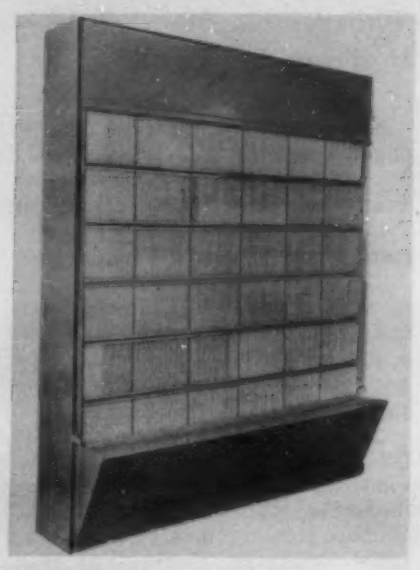
A stand with four plastic casters rolls the unit easily and will not mar floors. The cooler comes in sienna brown baked enamel finish with brass trim.

Wagner Tool Introduces Two-In-One Notcher

—KEY NO. E-521—

LONG ISLAND CITY, N. Y.—A two-in-one combination door gasket notcher for refrigerator or freezer doors has been introduced by Wagner Tool & Supply Co.

The new notching tool changes from 90° cutter to 22½° and back within a few seconds, according to the manufacturer.



Self-Cleaning Filters Offered In 6-In. Sections

—KEY NO. E-522—

LOUISVILLE, Ky.—Claimed as the widest section yet offered in automatic self-cleaning air filters is new 6-in.-wide section now introduced by Continental Air Filters, Inc.

New width not only adds flexibility of design to the Continental series, which can accommodate any desired CFM capacity—it will cut costs in many multiple-section installations by reducing the number of sections, and perhaps, drive mechanism units needed, the company says.

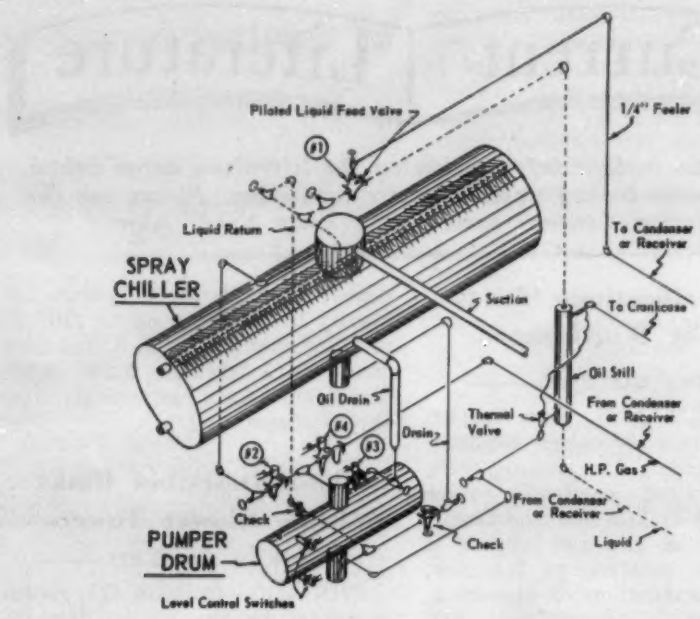


DIAGRAM IS FOR ANY FREON SYSTEM

Spray-Chiller-Recirculator Provides High Heat Transfer

—KEY NO. E-523—

MAYWOOD, Ill.—A new type of liquid chiller has been announced by the J. E. Watkins Co. here.

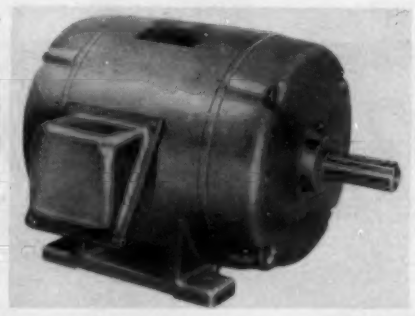
Upper horizontal drum of this new chiller contains a conventional bank of tubes through which flows the material to be cooled. Liquid refrigerant is sprayed over the tube bank and absorbs its heat of evaporation from the tubes. Refrigerant vapor is drawn out of the top of the upper drum.

Excess liquid is drained from the upper horizontal drum to a lower drum. When the liquid rises in the lower drum to its upper control level, the drum automatically switches from the draining cycle to the pumping or return cycle.

By means of high pressure gas from the receiver (or from the condenser), the excess liquid is "pumped" back to the chiller sprays. When the liquid falls to the lower control level, the drum automatically switches from the pumping cycle back to the draining cycle.

For "Freon" systems, the operation is essentially the same except that a special type of oil separator is included which returns the separated oil to the crankcase of the compressor.

Any fluid material may be chilled, according to the company. Current applications include the chilling of brine for skating rink freezing, water for air conditioning systems, and Aerosol liquids.



Wagner Announces Line Of General Purpose Motors

—KEY NO. E-524—

ST. LOUIS — A new line of general purpose ball bearing polyphase motors in rerated NEMA frame sizes 182 through 326 is announced by Wagner Electric Corp.

These type DP motors with corrosion-resistant cast iron frames are suitable for indoor or outdoor use, according to the company.

"Frames are smoothly contoured so that moisture cannot collect on their surfaces and construction is so completely dripproof that the motors can be used for many applications formerly requiring splash-proof motors," Wagner said.

"To protect the motors from moisture, ventilating air intakes are located at the bottom of the endplates and air outlets are positioned at the base of the frames on each side. Specially formed baffle plates direct air into the blowers and through the motor and also provide extra protection for the stator windings."

Like all Wagner ball bearing motors, these new motors are provided with means for relubricating the bearings when necessary.

Type DP motors will be available from Wagner in 1 to 30 hp. ratings, 3-phase, 60 cycles, 1,750 r.p.m. Wagner bulletin MU-202 describes their construction features in detail.

Ready Now! 48 BRAND NEW COOLING SALES AIDS!

SUNBEAM 1955 Cooling Sales Promotion Package

Ask your Sunbeam distributor to show you the giant new Sunbeam 1955 Cooling Sales Promotion Package. It's crammed with colorful, hard-hitting advertising-merchandising aids of every description. It has everything it takes to help you find prospects quickly—and close orders fast—on Sunbeam residential and commercial air conditioners made by American-Standard.

DIRECT MAIL and point-of-sale literature—fully appropriate for quality products yet packed with attention-getting gimmicks and hard sell. Jumbo postcards, self mailers and envelope stuffers are included.

NEWSPAPER AD MATS. There's a big selection—all sizes and a wide range of sales approaches.

RADIO AND TV SPOTS. The Sunbeam package brings you a full array of network quality material, including four new one-minute TV filmed commercials plus new radio scripts that establish you as local cooling headquarters.

SHOWROOM MERCHANDISING AIDS. Signs, window streamers, decals and other point-of-sale helpers, too! There's even a 24-page booklet telling how to make your cooling sales program pay highest dividends.

SUNBEAM COOPERATIVE ADVERTISING PLAN reimburses you for a liberal part of your newspaper, radio and TV costs.

Contact Your Sunbeam Distributor For Full Details

You'll find him listed under "Air Conditioning Equipment and Supplies" or "Furnaces" in your classified telephone directory.

SUNBEAM

SUNBEAM AIR CONDITIONER DIVISION

American Radiator & Standard Sanitary Corporation

ELYRIA, OHIO

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

New HIGH-PRESSURE CONDENSATE DISPOSAL UNIT

designed to eliminate pumping water to sewer drain-line

$74.50 complete—to contractors F.O.B. Dallas*

- ⅓ H.P. Motor
- Hot-dipped galvanized tank

EXCLUSIVE FEATURE: condensate accumulating in tank is pumped against 100 lbs. pressure of condenser water-line through check valve directly in condenser water-line at air conditioning unit, thence to cooling tower.

*Or order from jobber

ASK US FOR COMPLETE DETAILS

RASHCRAFT CO.

MECHANICAL EQUIPMENT

5643 Dyer Street • Dallas, Texas

Harry Alter's New DEPENDABOOK

No. 162 1955

GET IT AND SAVE!

OVER 10,000 ITEMS ILLUSTRATED, DESCRIBED AND PRICED

Save Money On REFRIGERATION PARTS and Supplies ...Also Electric Motors & Parts, Air Conditioning PRICED RIGHT!

"Harry Alter gives you snappy service"

WHOLESALE ONLY

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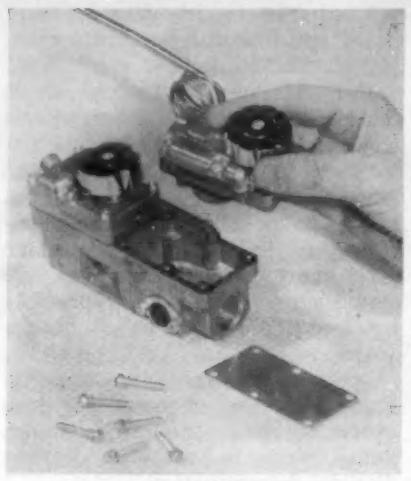
1728 S. Michigan Ave., Chicago 16, Illinois
34 Lafayette Street New York 13, N. Y.
[illegible] Parkhouse Street, Dallas 7, Texas

What's New (Con't)

M-H Combines Pilot Control, Thermostat In New Valve



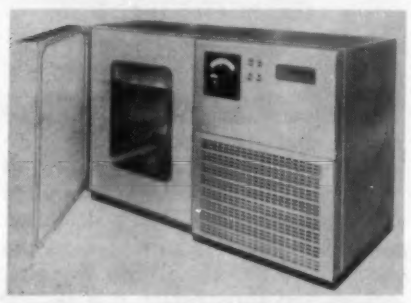
——KEY NO. E-525——

MINNEAPOLIS — A new valve and pilot control "package" which increases the flexibility of control systems is announced by Minneapolis-Honeywell Regulator Co.

The new control, known as V5153 "Adatrol," includes a basic valve section on which Honeywell's gas cock "pilotstat" is factory-mounted. Models may be purchased with thermostats also factory installed or the unit can be supplied with a thermostat "kit."

"To add the thermostat the manufacturer, dealer, serviceman, or user needs only to remove a blank plate from the basic valve and mount the thermostat.

The package system enables equipment manufacturers to supply basic valves and pilot controls in a single installed unit for each appliance manufactured. Range of the thermostat is 55 to 95°.



Small Test Chamber Has 5 Possible Arrangements

——KEY NO. E-526——

UNION, N. J.—A small, multi-purpose test chamber that offers five possible arrangements has been introduced by Tenney Engineering, Inc.

Called the "Tenney-Mite," the new unit operates as a complete low or high temperature testing unit, a bath, or a laboratory oven. With an interior capacity of 1½ cu. ft., it can be used for metal treating and tool chilling, for instruments, and for pharmaceutical storage and preservation.

The Tenney-Mite is available in -40° F., -100° F., and -120° F. temperature ranges. Reported pull-down on the basic -100° F. model is approximately 60 minutes.

Portable Direct Reading Air Meter Is Redesigned

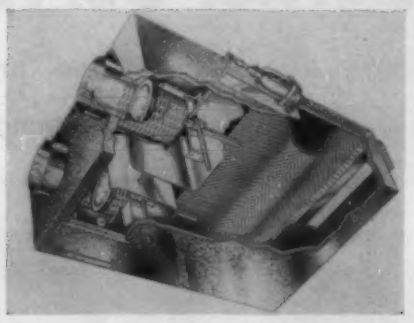
——KEY NO. E-527——

NEW YORK CITY—Anemostat Corp. of America here has announced a redesigned portable "Anemotherm" air meter which gives instanteous direct readings on air velocity, air temperature, and static pressure in heating, ventilating, and air conditioning systems.

The new air meter measures velocity from 10 to 8,000 f.p.m. in increments as small as 5 f.p.m., temperature of 225° F. with an accuracy of about one-half of a degree, and static pressure directly in terms of inches of water from 0 to 8 negative and positive with a sensitivity of better than .05 in. at lower range, the company said.

The meter is contained in a carrying case.

Air Diffuser Controls Temperature, Volume Separately



——KEY NO. E-528——

DANBURY, Conn. — Temperature and volume are controlled separately in a new Connor Engineering Corp. dual duct high pressure air diffuser.

While total air delivery, once established, remains uniform under all operating conditions, temperature is varied by mixing hot and cold air quantities, the company said.

Both air inlets are fitted with dampers consisting of double perforated concentric sleeves and felt edged pistons. The two outer sleeves slide back and forth over the fixed inner sleeves, governing the size of the holes through which the air flows.

At extreme positions the perforations in one damper coincide, permitting maximum air passage, while those in the other damper are closed, blocking air passage.

As both outer sleeves are moved simultaneously by the thermostat-actuated motor, the size of the holes in one damper increase in the same ratio as those in the other decrease, thus proportioning hot and cold air and controlling final temperature.

Adjusting the pistons changes the number of perforations accessible to air flow and hence determines total air delivery. As each piston is adjusted separately, hot and cold air supply may be closely regulated against different static pressures in each duct, the company said.

Though operating conditions may vary widely the mixing chamber blends the two air quantities to the desired discharge temperature, an especially important characteristic when several outlets are supplied from the same unit.

Sound levels measured on the 40 decibel scale of a standard sound meter range from 32 to 45 decibels, depending upon the size and type unit selected for a particular pressure and air delivery.

Air volume is set by a rack and pinion. Mixing is obtained by 90° movement of a horizontal shaft, thus permitting the use of a standard damper operator controlled by a thermostat.

The Connor "Kno-Draft" dual duct diffuser, actually a combined valve and reducing chamber, is made in capacities up to 1,000 c.f.m., operating at static pressures up to 6 in., water gauge.

Complete data, including system design information, is available.

"Complete line, the perfect set-up for every need," says Clyde L. Copp (left), Typhoon dealer in Tulsa, shown with one of his customers.

TO GET ON THE MOST PROFITABLE FACTORY-DEALER TEAM IN THE BUSINESS, TIE UP WITH

TYPHOON AIR CONDITIONING — 505 Carroll St., Brooklyn 15, N. Y.

- COMMERCIAL AIR CONDITIONERS, 2 TO 25 TONS
- RESIDENTIAL YEAR-ROUND UNITS FOR GAS OR OIL
- ROOM AIR CONDITIONERS, ½, ½, ¾, 1 H.P.
- PACKAGED HEAT PUMPS, RESIDENTIAL & COMMERCIAL

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

What's New or Current Literature Available

Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....

Products Advertised
(list name, page, and issue date)

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AIR CONDITIONING & REFRIGERATION NEWS
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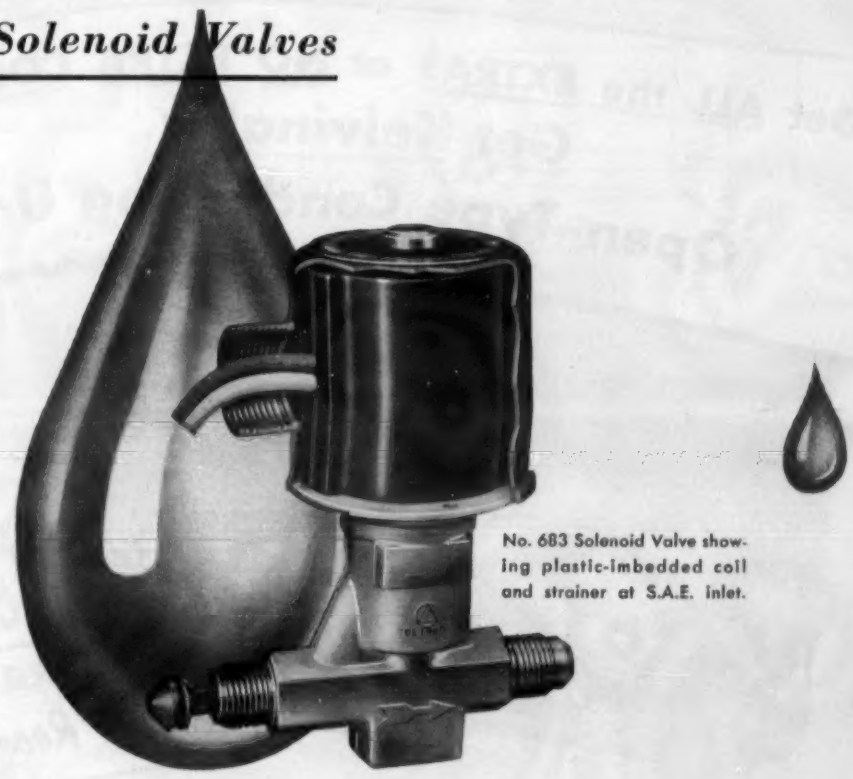
450 W. FORT ST. DETROIT 26, MICHIGAN

Waterproof Solenoid Valves



No. 683 Solenoid Valve showing plastic-imbedded coil and strainer at S.A.E. inlet.

DETROIT Solenoid Valves have built-in protection against moisture, dirt, leakage and noise!

- Coil imbedded in waterproof plastic.
- Strainer integral in forged brass bodies.
- Sturdy mounting boss.
- Noiseless operation . . . no A.C. hum.
- Choice of flare, sweat or pipe thread connections.
- Capacities to 5.1 tons Freon-12.

DETROIT CONTROLS CORP. supplies a complete line of controls for the heating and air conditioning industries, as well as refrigeration.

No. 681 Capacities to 8.7 tons F-12

No. 686 Capacities to 20.4 tons F-12

No. 689 Capacities to 50 tons F-12

DETROIT CONTROLS CORPORATION
5900 TRUMBULL AVE. • DETROIT 8, MICHIGAN
Division of AMERICAN RADIATOR & STANDARD SANITARY Corporation

Representatives in Principal Cities • Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES, LTD., Montreal, Toronto, Winnipeg.

AUTOMATIC CONTROLS for REFRIGERATION
AIR CONDITIONING • DOMESTIC HEATING • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES
Serving home and industry
AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

Oil Burner Servicing

Clogged Spray Nozzle, Air In Fuel Line, Improper Drafts, and Short Chimneys Are Among Common Problems

ATLANTA—To give refrigeration servicemen an idea of what they might encounter on year-round residential air conditioning, Otto J. Ress outlined fundamentals of oil burner servicing at the recent ARI-RSES Educational Conference here.

"The oil burner is not too difficult an item to service," said Ress, who is chief engineer of Mueller Climatrol Div. of Worthington Corp.

"To service burners, however, the serveman must (1) understand the operating principles, (2) know the functions of the various component parts, and (3) know the peculiarities of the individual brand of oil burner he's servicing," Ress explained.

At the present time, he also pointed out, there are 7,800,000 oil fired central heating systems in this country, and approximately 7,000,000 gas-fired jobs. In 1954, he said, 800,000 oil burners were sold, 430,000 in furnaces and 370,000 conversion burners.

"The domestic oil burner," Ress said, "burns from .6 to 2½ gals. of oil per hour, depending on the size, etc. The smallest domestic oil burner is rated at 84,000 B.t.u. per hour; the largest at 350,000 B.t.u. per hour.

SERVICEMEN learned what makes an oil burner tick when Otto J. Ress, chief engineer of Mueller Climatrol Div., discussed and took apart a conversion burner at the recent ARI-RSES Educational Conference in Atlanta.

"What you'll generally find in dealing with year-round oil-fired residential air conditioning systems is a ¾ to 1 gal. input burner usually tied in with two or three tons of air conditioning."

An important component of an oil burner, Ress told the group, is the refractory, which must be of the proper size and shape. The refractory, which must heat up quickly when the burner starts, stays hot enough to ignite the mixture of air and oil, he explained.

"Generally you won't have to worry about the refractory design because the manufacturer has taken care of that."

The nozzle, which sprays oil into the refractory as a gas, also has the function of controlling the oil flow rate.

Clogging of the .005 in. slots in the nozzle is a frequent service problem, according to Ress.

"The nozzle slots must be cleaned with a solvent, not scraped out with a screwdriver, which might damage them," he cautioned. "Clogged or improperly serviced nozzles can cause a lop-sided flame, excessive smoke, or other problems."

Pump of the oil burner, he continued, has two functions. It brings the oil from the supply tank to the burner and the steps up the pressure to 100 p.s.i.

A strainer is provided just ahead of the pump proper to protect it from any foreign matter that might get into the oil. There is also a regulator to maintain the required 100 p.s.i. pressure and a cut-off device which stops the flow of oil when the pressure drops 15 p.s.i. as the motor stops at the end of a cycle.

"This is to prevent an 'after flame'," Ress said.

If the installation is such that there is a suction lift from the oil tank to the burner, a leak in the fuel line will allow air to get in, he continued.

"Air in the line will cause froth, noise in the pump, and an uneven flame."

There is a flexible coupling between the motor and pump to simplify alignment, the motor usually being ⅛ or ⅙ hp. on domestic units.

A blower is mounted on the motor shaft to supply air for combustion. A single molecule of oil requires 15 molecules of air for 100% combustion, Ress declared.

A turbulator is provided in the oil to give the air a high spinning action and thus better mix the oil spray and air, he added.

"Air-handling parts are varied with the capacity of the oil burner."

Explaining that it is necessary to light the oil with some means of electrical ignition system, Ress explained that the ignition system can be turned off once the oil gets to burning.

The Mueller system employs intermittent ignition using 10,000 volts obtained from a transformer.

"Location of the ignition electrodes and the gap between the electrodes are both very critical. The electrodes themselves are not in the oil spray but are so located that the air from the blower blows the spark forward into the spray," Ress said. "If the electrodes were in the spray, they could be damaged and wouldn't spark.

Insulators around the electrodes, he also pointed out, can break down and leak the potential, causing poor or no ignition.

Improper drafts can also cause difficulties with oil burner operation, Ress indicated.

"Short chimneys in basementless houses can lead to serious problems. It is advisable to watch closely for leaks, to keep the smoke pipe short, avoid elbows in the smoke pipe if possible, and possibly insulate the smoke pipe," he advised.

"Oil burner servicing also requires the use of certain instruments to check the draft, smoke, flame, and to make a carbon dioxide determination."

Air-Maze Names 2 to Home Office Sales Posts

CLEVELAND — Two appointments to home office sales posts were announced recently by W. B. Watterson, vice president in charge of sales for Air-Maze Corp. here, manufacturer of air and liquid filters.

Bruce W. Carkin has been appointed sales engineer of railroad and original equipment installations. He was formerly associated with Electromotive Div. of General Motors Corp., LaGrange, Ill., in the design and development of railroad locomotives.

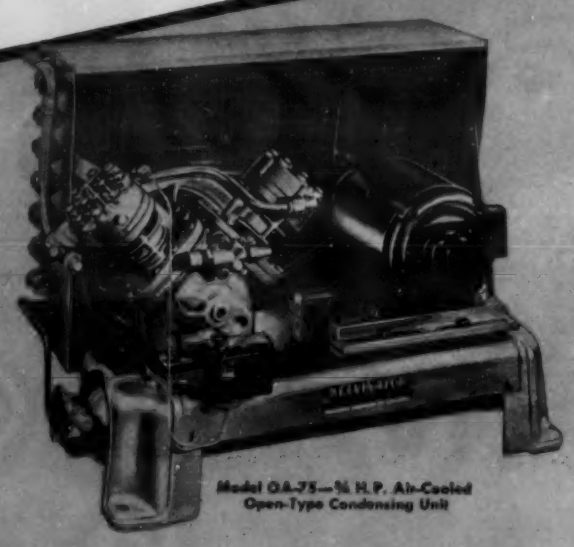
Watterson also announced that Bennett T. Church has been named manager of distributor sales. He previously served with Harvey Whipple, Inc., Springfield, Mass.

WHY WAIT?

Get your new product info pronto. Use coupon on "What's New" page this issue.

Use Key No. for fastest service.

Get ALL the EXTRAS at NO EXTRA COST
Get Kelvinator
Open-Type Condensing Units



Model OA-75—⅝ H.P. Air-Cooled Open-Type Condensing Unit

EXTRA LARGE! Air-Cooled Condensers

EXTRA LARGE! Receivers

EXTRA CAPACITY! Water-Cooled Condensers

EXTRA! Heavy-Duty Construction

EXTRA! Easy-to-Service

NO EXTRA INVENTORY COSTS! $25. will cover your parts investment for all models in seals, valve plates, gaskets, etc.!

Kelvinator offers a precision built line of open-type units famous for dependable performance and trouble-free service, yet they are priced realistically, let you meet any competition. A complete line of air-cooled, water-cooled, combination air- and water-cooled, and truck type from ¼ H.P. air-cooled through 5 H.P. water-cooled.

Model K352CR, ¼ H.P. Capacitor Start

Kelvinator Polarsphere Internally Mounted, Hermetically Sealed, Condensing Units. A complete line from 1/3 H.P. through ½ H.P. for a wide range of applications.

Packaged For Profits! Kelvinator Sealed Compressors. Complete packaged compressors for household and commercial cabinet replacement now available from Kelvinator, for the first time. (Model DK 352C ¼ H.P. capacitor start, illustrated.) High capacity, competitively priced compressors. 10 models. ⅛ H.P. through ½ H.P.

SEE YOUR REFRIGERATION WHOLESALER OR MAIL THIS COUPON

Commercial Dept., Kelvinator Division
American Motors Corporation, Dept. AC-5A
14250 Plymouth Road, Detroit 32, Michigan

I am interested in more information about

☐ Open-type condensing units.
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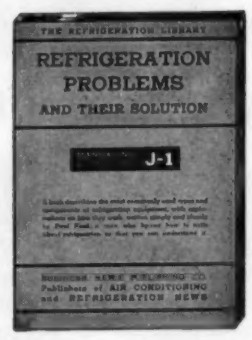

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Driers Should Be Sized by Quantity of Refrigerant, Not Hp., Ansul Suggests

ATLANTA—"It's much harder to dry 'Freon-22' than it is 'Freon-12,'" John Bopp, chief chemist of Ansul Chemical Co.'s Refrigeration Div., reminded servicemen attending the recent ARI-RSES Educational Conference here.

"Pound for pound, 'Freon-22' will hold 13½ times as much moisture as 'Freon-12,'" Bopp further indicated.

For most applications, he indicated, "Freon-12" is satisfactorily dry if its moisture content has been pulled down to 10 parts per million, which is "roughly 10% relative humidity." However, "Freon-22" has to be dried to 2% r.h.

Sizing of driers, Bopp also said, should be done on the basis of quantity of refrigerant in the system, not the rated horsepower of the condensing unit.

"The amount of refrigerant will vary from job to job, depending on the application and other factors even though the same horsepower units may be employed," he explained.

The industry, he pointed out, soon expects to issue standards so that all driers will be sized according to refrigerant quantity instead of unit horsepower.

Bopp also discussed briefly a new Ansul moisture indicator designed to show, by changing color of the indicator, whether a system is wet or dry.

"This is to be used in the liquid line, not the suction line, and is recommended only for 'Freon-11,' 'Freon-12,' and 'Freon-22,'" he explained.

"Although it has been employed on methyl chloride and sulphur dioxide systems, we haven't evaluated the indicator yet for these refrigerants and therefore don't recommend it," Bopp cautioned.

Generally, he said, it takes a minimum of 24 hours, but more often 48 hours, to dry a system with driers.

White-Rodgers Appoints Tanler To New Post As National Representative

ST. LOUIS—R. A. Sherer, sales manager of White-Rodgers Electric Co., maker of automatic controls, has announced the appointment of Frank Tanler to a newly-created position in its sales organization.

Frank Tanler

Tanler will operate as national sales representative, cooperating with the White-Rodgers regional sales managers. He will devote his personal attention to the individual production and service problems of manufacturers of heating and air conditioning equipment, concerning the application of controls to their products.

Sherer said there has been an ever increasing number of requests to the St. Louis sales headquarters for assistance of this type, "due undoubtedly to the company's expanding business and also as a result of several new products released by White-Rodgers this year."

Crowe Named to Wolverine Sales Staff; Egan, Finn Transferred

DETROIT—Appointment of R. C. C. Crowe to the sales staff and the transfers of K. F. Egan and E. J. Finn were announced recently by J. M. Dumser, director of sales for Wolverine Tube, division of Calumet & Hecla, Inc.

Crowe has been associated with Wolverine for more than five years. Until recently, he was divisional industrial and public relations supervisor.

He will take over Finn's former territory in southeastern Michigan.

Finn will transfer to Egan's former territory, Boston and environs. Egan will relocate in Rochester, N. Y., serving upper New York state.

'54 'Best Year' for M-H, Sales, Earnings Increase

MINNEAPOLIS — Minneapolis-Honeywell Regulator Co.'s business in 1954 was "the best in the company's history," with both sales and earnings exceeding those of any previous year, the annual report to stockholders disclosed.

The firm had a record net income of $15,345,203, equal to $4.84 a share on 3,172,953 shares of common stock outstanding. This compared with 1953 net earnings of $10,329,825, or $3.31 a share on 3,119,353 common shares outstanding.

Sales in 1954 rose to $229,401,837, an increase of $15,383,012 over the 1953 total of $214,018,825.

Sales of controls for residential heating and air conditioning reached new highs, as did the sale of temperature control equipment for all types of commercial buildings, the report said.

Hibbard To Head Buffalo Sales for Cutler-Hammer

MILWAUKEE — R. L. Hibbard has been appointed district manager of the Buffalo district sales territory for Cutler-Hammer, Inc., F. A. Wright, sales manager of the district sales division, announced recently. Hibbard had previously been branch manager in Saginaw, Mich.

Graduating from Cornell university in 1936, Hibbard joined the training program at company headquarters here. After completing the program he was transferred to the merchandising sales department.

K. L. Smith of the Detroit office has been selected to replace Hibbard in Saginaw. Smith joined Cutler-Hammer in 1949 after graduating from the University of Michigan with a bachelor of science degree in electrical engineering.

After his Milwaukee training in 1950, he was assigned to the Detroit office serving there until July, 1951.

Michigan RSES Elects Officers

CONGRATULATING NEW OFFICERS of the Michigan Association of the Refrigeration Service Engineers Society, H. T. McDermott (r.), international secretary of the society, shakes hands with Don Renwick of Lansing, the new president. To Renwick's left is Clair Babcock of Flint, first vice president; and to his left Harvey Whitsett of Detroit, second vice president. Other new officers include Forrest Holcolm of Jackson, secretary; Harry Hondorp of Grand Rapids, treasurer; Walter Slowik of Kalamazoo, sergeant at arms; and Bill Clark of Grand Rapids, educational chairman.

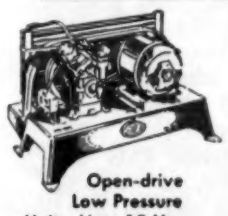
St. Regis Paper Co. Buys Michigan Molded Plastics

NEW YORK CITY—St. Regis Paper Co. announces that it has acquired 100% of the capital stock of Michigan Molded Plastics, Inc., of Dexter, Mich., and that the Michigan company will henceforth be known as Michigan Panelyte Molded Plastics, Inc.

The Michigan company, with its facilities for custom injection and compression molding, augments the production of the equipment at other Panelyte plants at Cambridge, Ohio; Richmond, Ind.; and Trenton, N. J.

Howard A. Kirby Dies

AKRON, Ohio — Howard A. Kirby, who operated a refrigerator coil cleaning and service firm here, died unexpectedly at his home recently. Only 38 years old, he had been under a doctor's care for a heart condition. He is survived by his wife Betty and three daughters.



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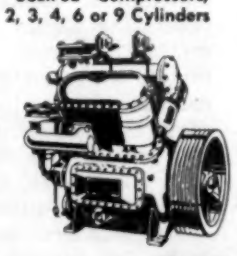
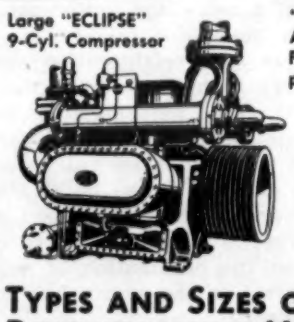


Large "ECLIPSE" 9-Cyl. Compressor



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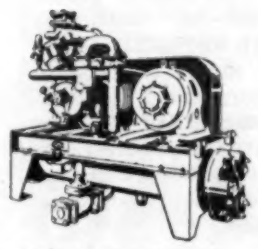

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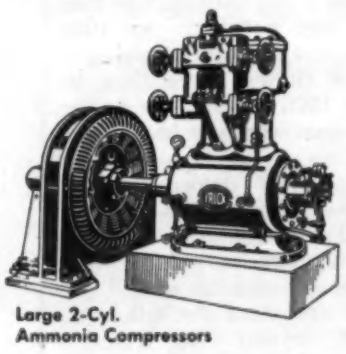
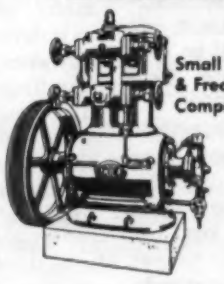
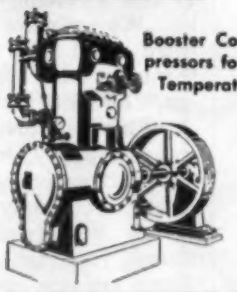


Large 2-Cyl. Ammonia Compressors



Small Ammonia & Freon-22 Compressors.



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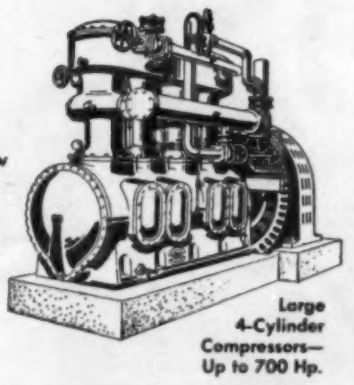

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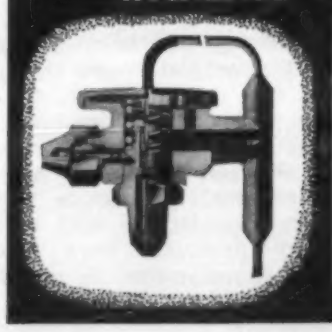

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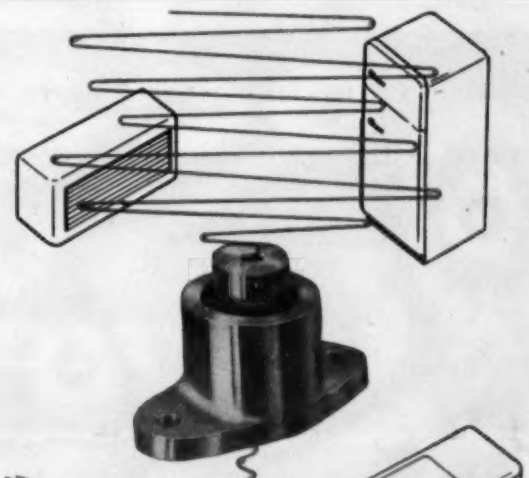

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Trends In Dairy Industry Offer New Market Possibilities for Refrigeration

Commercial Refrigeration

ATLANTA — Modern trends in the dairy industry offer new market possibilities for the refrigeration field, according to David H. Burrell, vice president in charge of operations for Cherry-Burrell Corp.

Burrell reviewed these trends at the recent educational conference here sponsored by Air-Conditioning and Refrigeration Institute.

Making a comparison of the present-day status of the dairy industry and that of 30 years ago, Burrell pointed out that "not everybody drank pasteurized milk then, and there were a lot of arguments going on between the believers in raw milk and those who fought the uphill battle to have pasteurization of dairy products become the accepted and legal health standard that it has become today.

Cooling Must Follow Pasteurizing

"Now I make this point about pasteurization," he explained, "because as you know Louis Pasteur found that certain combinations of time and temperature applied to milk would destroy all harmful bacteria.

"Now, obviously, when heat is applied to milk to pasteurize it, then the heat must be removed in order to cool it down to its original temperature and lower to give it keeping qualities and a refreshing and delightful flavor.

"Refrigeration is applied to raw milk at the dairy farm as an essential phase of pasteurizing and processing, and as a must in the transportation and storage of milk and the products of milk.

"In 1925, our national milk production was about 90 billion pounds, today it's at 125 billion pounds, and by another 30 years, 1985, a figure of 170 billion might be realistic," Burrell declared.

"To put this in more easily understood language, the 125 billion pounds of milk produced in 1955 equals four glasses of milk per person per day. Only two glasses per person, however, are consumed as fluid milk, milk in the other two glasses goes into butter, cheese, ice cream, dried and evaporated milk.

"Too much of it goes into government surplus, and I can't help making the remark that if everyone would drink just one more glass of milk per day, there wouldn't be any surplus. We, as taxpayers, buy it anyway—why not drink it?

Successful People Are Large Milk Consumers

"While I'm digressing, the great Dr. E. V. McCollum, American authority on food says:

" 'The people who have achieved, who have become large, strong, vigorous people who have reduced their infant mortality, who have the best trades in the world, who have an appreciation of art, literature, and music, who are progressive in science and in every activity of the human intellect are people who have used liberal amounts of milk and its products.

"No wonder the unofficial slogan in our industry is 'Everything we have, we owe to udders.' "

Itemizing the 1925 status, Burrell continued, "the dairy farmer, if he cooled his milk at all, usually put the cans in well or spring water, the milk plant used brine or ice water as the most common means of cooling what milk was pasteurized. Ice was found everywhere and for almost every use.

Old-Time Massive Ice Machines

"As for plant refrigeration units, many of you remember the early 'ice machines,' slow speed, two-cylinder, massive affairs. We compare in our minds these cumbersome monsters with today's 1,200 r.p.m. 12-cylinder jobs that have automatic cutout of cylinders to balance loads, with one-half the weight.

"The brine tank gets a word, too. My, we all experienced tremendous corrosion problems then. The sweet water and ice bank type of cooler were then just beginning to come in, to help cut down peak loads and extra power costs. Higher suction pressures were coming use, too, with resultant lower electric power per ton," Burrell said.

"The ice cream manufacturer, if he had gone beyond the salt and ice stage, was making his product on brine or the newer direct expansion freezers, in batches. Ice cream cabinets with mechanical refrigeration were two years old.

"For transporting dairy products, ice was used for milk and frozen brine cartridges in ice cream trucks and store cabinets. We were just beginning to do business with you people. We were young, and you were younger.

Picture of Modern Dairy Procedures

"Now let's review what we find today before going any farther.

"What a tremendous change we find. Our 1955 inventory shows air conditioning in dairy and food processing plants. Our own company uses it industrially as well as in many offices. As for refrigeration, there are some new products that were unknowns in 1925.

"Cold wall storage tanks were first introduced to the industry in 1945. Now over two-thirds of all tanks sold are refrigerated, and are used by all segments of the dairy industry.

"Farm tanks, spectacular new boon to the dairy farmer, are the 'hottest' item in our industry today. While the bulk milk tank benefits the dairy farmer, by assuring proper raw milk cooling and reduced labor of handling, it also helps the milk plant in its receiving operation.

"Most important of all, the farm tank system assures the consumer of a safer and better product. I'm sure you fellows know that there is a refrigeration unit with every farm tank. In September, 1954, there were about 12,800 farm tanks in use, in 1955 15,000, and the total potential (all farms with 15 or more cows) is 600,000.

"A more realistic appraisal of the market is 400,000 units, based partly on the elimination of very small farms on the survival of the fittest theory.

Replacement Market

"However, even after full conversion to farm tanks, dairy farmers should afford an annual replacement market of at least 7,500 tanks," Burrell declared.

"There is place in the farm tank picture for not only the manufacturer of compressors, but for the refrigeration dealer in distributing to and servicing a vast user market. We estimate that at least one third of all farm tanks will be sold through local refrigeration dealers," he said.

"When you drive along our highways today, you see more and more attractive stands or drive-ins where you may purchase fresh frozen ice cream, soft, but not soupy, just right and easy to eat. There are now about 15,400 stands, perhaps encompassing some 22,000 individually refrigerated ice cream freezers.

Refrigerated Transportation

"Farm tanks are only one part of a material handling revolution. The introduction of this system in delivering and storing ice cream mix for both the commercially frozen and soft ice cream industries is just beginning. Part of this process entails the manufacture and use of refrigerated tank trucks for bulk transportation.

"Speaking of transportation, there are in use today over 10,000 over-the-road trucks and trailers equipped with mechanical refrigeration. Railroads are behind trucks in this respect, with some 1,200 mechanically refrigerated cars now in use. Experts predict that these figures will be at least doubled by 1960, and will hit an annual rate of increase of 5,500 to 6,000 at that time.

"Mechanically refrigerated delivery trucks. I can't quote any figures on these, but the number is growing rapidly. Now used primarily for ice cream, their use for milk is coming in, particularly as the use of single service containers grows," Burrell indicated.

"Automatic vending and dispensing equipment. Here's a big market, now and future. The dairy industry is just waking up to the fact that making milk and ice cream readily available, and for the impulse buyer as well as for the planned purchase, can increase per capita consumption.

Coin-Operated Vendors

"According to figures we have, there were 16,00 milk and 20,000 ice cream coin-operated vending machines in use in 1954, in addition to approximately 60,000 milk dispensers. Each unit has mechanical refrigeration.

"Pre-fab refrigeration storage. Don't overlook this field in the dairy industry. Unitized hardening rooms and coolers are becoming increasingly popular due to costs of adding or building. The growth of sub-stations loaded by transport tanks or trailers from big dairy plants and drawn on by route trucks should not be ignored. Prefab storage also permits location shift without loss of investment.

"A final look at 1955, before moving on, shows that all dairy processing plants use more refrigeration. Ice cream has the highest factor, with half of all equipment, measured on original cost basis, requiring refrigeration. This does not include the cost of compressors, condensers, or any refrigeration units or allied equipment.

"All modern ice cream plants make ice cream on continuous freezers. Did you know that butter is now being made entirely in stainless steel equipment, continuously and automatically? The new continuous churns for butter are not unlike ice cream freezers, and require the services of refrigeration," Burrell said.

Picture for the Future

"Now let's get back to our time machine and pedal up to 1985. While we find ourselves looking at many new things, more than we saw from 1925 to 1955, we do see, however, vast changes in material handling means and methods of distribution and dispensing that were infants today. We see that mechanical refrigeration and air conditioning are universally used and for more uses as well.

"There are some declining factors. The crystal ball tends to show some decreased uses for refrigeration. The greater use of dry milk solids for baking and beverages purposes has taken away some use in transportation, merchandising, and home storage.

"We are glad to see that people are still drinking milk, and more per person, eating ice cream, and buttering bread and pancakes.

"We see, too, that people in other countries, that in 1955 had little acquaintance with milk and dairy products, have increased their consumption. In all of this, your industry played a vital role."

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Pioneering is over, but market is wide open. Total 12-year sales to fall of '53 were 7,000 bulk milk coolers; by fall of '54, 6,000 more; estimates for '55, from 12,000 to 50,000 more! And that's only a start! Prospects concentrated—groups go bulk by milk routes.

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Residential Air Conditioning

Adding Separate Cooling System Rather Than Converting Steam or Hot Water Plant to Chilled Water May Be Best Solution to Problem of Air Conditioning Older Homes

By C. Dale Mericle

CHICAGO—Indicative of the interest in year-round residential air conditioning, a conference on the subject was held by Oil-Heat Institute of America, Inc., during its 33rd annual convention at the Conrad Hilton hotel here.

A panel reviewed liquid and air methods of cooling and heating, with more emphasis on the heating phase, before the session was opened for general discussion under the chairmanship of Claude Potts, vice president, U. S. Machine Div., Stewart-Warner Corp.

Adding a separate cooling system rather than converting an old steam or hot water plant to chilled water may be a practical solution to the problem of air conditioning older homes, indicated Prof. W. S. Harris of the University of Illinois, who is in charge of the Institute of Boiler & Radiator Manufacturers' Research Home.

INSTALLATION PLANNED IN RESEARCH HOME

"Chilled water fan-coil units serving two or more rooms could be installed without changing the heating system," Prof. Harris said, adding that "we plan such an installation this summer in the Research Home."

Such units, he explained, could be mounted in closets or other convenient locations with a minimum of alteration to the home.

An installation of this type, he implied, would cost considerably less than the complete re-piping replacement of radiation, etc., that would probably be necessary to add summer cooling to an old liquid heat system.

Prof. Harris told the oil men present that "steam heating is simply refrigeration at high temperature," and traced the refrigeration cycle to point out the similarities in the two.

"Don't oversize cooling equipment," he cautioned. "With cooling you aren't doing the customer a favor by adding 5% or 10% capacity as a safety factor. It will get you in trouble every time."

Excessive cooling capacity, he explained, will lead to frequent cycling of the air conditioning system with consequent build-up of humidity within the house.

CALCULATING COOLING LOADS

Some of the differences in calculating the cooling load as opposed to the heating load were outlined by Prof. R. J. Waalkes of Michigan State college who pointed out that the sun load is not considered in heating but it is "one of our biggest factors" in summer cooling.

"The color of the roof and its construction are important; wall construction and finishes are also important; internal heat gains must be considered. In heating they help us, but in cooling they work against us," Prof. Waalkes said.

"And in cooling you have to dehumidify rather than humidify, as is sometimes done in heating. However," he commented, "the basic steps in designing a system are the same for heating or cooling."

Perimeter heating systems, Prof. Waalkes declared, can be readily adapted for cooling, but, as with any cooling system, care must be taken to avoid drafts on the occupants.

"This can be more of a problem with high side wall outlets," he commented. "With a perimeter system using floor registers, you have to make sure the cold air goes up high enough so that it won't spill over on the occupants."

Because in many cases a greater quanty of air is required for cooling than for heating, the trend is now back toward to the air quantity method of calculating a system, he indicated.

"If air delivery for heating and cooling is out of balance, you can (1) design an extra run used for cooling only, (2) by-pass some of the air around the furnace during heating cycle, (3) use a multi-speed blower, or (4) use multiple blowers," suggested Prof. Waalkes.

He pointed out that the complete packaged year-round conditioner is "the simplest for the contractor to handle, while the add-on type units he has to re-calculate the system to determine the capacity of the ductwork."

Another member of the panel was H. T. Gilkey of the University of Illinois, who discussed warm air heating systems, with special emphasis on the currently popular perimeter layout.

HUMIDITY PROBLEM

In answer to a question from a contractor who said he found the humidity problem a most important one in designing residential air conditioning installations, Prof. Harris commented that the "dehumidification load can be sizable. The design of the coil limits the amount of moisture removal, and usually the maximum latent load on a system can run up to 25% of the total load."

"One way to improve humidity control," Gilkey said, "is to cycle the blower with the compressor. When the compressor shuts off the coil is loaded with moisture. If the fan continues to run, it will re-evaporate this moisture, raising the humidity. Stopping the fan at the same time will prevent this.

"However," Gilkey added, "in some circumstances stagnation of air in the conditioned space will result when the fan stops running. It's best, therefore, to have a properly sized unit that will run a long time.

SOURCES OF MOISTURE

"Sources of moisture in a house can't be ignored. Clothes driers should be vented. And in crawl space homes, the ground in the crawl space should be covered with a moisture barrier."

Will a thin skin of concrete over the crawl space help the moisture problem? one contractor asked.

"I doubt it," Gilkey said, "since a vapor barrier is needed under a concrete slab type of house."

Another questioner wanted to know the expected life of a heat exchanger in a counterflow installation with cool air passing across it.

"Not long enough unless the heat exchanger has been properly treated," was Gilkey's answer, who explained that "the heat exchanger can be by-passed or placed ahead of the coil. Corrosion," he added, "occurs on the combustion side of the heat exchanger, not the air side."

Viking Air Conditioning Names Richard F. Gang General Sales Manager

CLEVELAND—Richard F. Gang, for the past four years assistant sales manager, has been appointed general sales manager of Viking Air Conditioning Div. of The National-U. S. Radiator Corp.

R. F. Gang

M. I. Levy, Viking vice president and general manager, made the announcement.

In his new post, Gang succeeds Frank P. Gibbons, who has left Viking to become a manufacturers' representative.

As general sales manager, Gang directs a force of 23 factory salesmen and manufacturers' representatives in their sales of Viking products through manufacturer and distributor channels from coast to coast.

Viking is a major producer of window and attic fans, and furnace blowers, blower packages, and humidifiers, the company pointed out.

Gang joined Viking in 1949 as sales promotion manager, and was elevated to assistant sales manager in 1951. Before coming to Viking, he was with Proctor & Gamble for five years as district sales representative.

MAYSON

valve needles and seats

Mayson needles and seats provide perfect seating with a full floating fit to eliminate costly leak through. Seventeen years ago Mayson patented the first needles with the point built into the shank. Since that time we have constantly developed new techniques including non-magnetic seats so that now you can order fine micro finishes in any of the following metals—

Stellite points with shank of Chrome Nickel Stainless Steel, Hastelloy needles combined with a Bronze shank, Chrome Nickel Stainless Steel, Monel Metal, Brass, and any combination of the above.

Send your specifications for quotation. Satisfaction guaranteed.

MAYSON MANUFACTURING COMPANY
4332 Horatio St. Detroit 10, Michigan

Makers of Expansion Valves Since 1932

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has a complete line of INSULATING WINDOWS and SHADING DEVICES to help you sell and service the fast-growing field of

AIR CONDITIONING

For proper window insulation and shading—so important to efficient air conditioning—Rusco has the finest "field tested" line on the market.

Rusco's hot-dipped, galvanized steel Combination or Prime Windows and Rusco's all-metal Venetian Awnings, Door Canopies and Terrace Canopies, are engineered to increase the efficiency and reduce the operating costs of the systems you install.

We invite you to write to the address below for full information.

RUSCO'S AIR CONDITION WINDOW... is especially designed for room air conditioning units. Made to fit any size window opening, this unit completely eliminates makeshift, unsightly installation—gives you a bright, clean-appearing job that *helps sell more air conditioning!* Eliminates sealing problems and is available with insulating sash, for double glass insulation, which gives maximum air conditioning efficiency.

AWNINGS, DOOR, TERRACE CANOPIES... now recognized as one of the most important factors in reducing the power load required for efficient air conditioning—are made by Rusco, from the finest quality metals. Available in a wide range of sizes and colors to meet all building requirements. These Rusco products are permanent once they're installed. There's nothing to change with the seasons—or store! You can recommend Rusco shading devices—with confidence!

RUSCO COMBINATION WINDOWS... the first self-storing, all-metal Combination Window in the world—is the ideal window treatment for the air conditioned home or building! These completely weathertight windows, with Rusco's exclusive Magic-Panel® ventilation—are made from hot-dipped, tubular galvanized steel and finish-painted with a smooth, baked enamel surface. They can be installed right over existing windows—in a matter of minutes—without any alteration to the building. ***For new construction*** —the Rusco Prime Window, with insulating sash (optional) is the finest window you can recommend for ideal air conditioning installations on new buildings.

For complete information—write to Dept. 1-AC55

THE F. C. RUSSELL COMPANY

CLEVELAND 1, OHIO • *In Canada:* TORONTO 13, ONTARIO

World's largest manufacturer of windows, doors and home comfortizing products

Always one step ahead of the weather with RUSCO

Restaurant & Bar Equipment

Dispensing Heads Designed for Large Volume, Fast Service

GARDENA, Calif. — Everfrost Sales, Inc., has announced a new "Speed-Serv" dispensing head for installation on bobtail fountains, fountainettes, or creamer units.

According to Don Hilke, Everfrost vice president, Speed-Serv dispensing heads are designed for installations that require large volume, fast drink service. The units are available in a wide range of combinations of mixing faucets and draft arms.

By simply removing the top of the Speed-Serv, fresh syrup can be poured into each of the three 2-gal. containers in a matter of seconds. Syrup is mechanically chilled to the proper temperature by cold-wall type refrigeration and mixed and dispensed by a faucet developed by Everfrost engineers.

The Everfrost Speed-Serv can be used on a fountain in conjunction with the regular draft arm station since a regular soda and plain water draft arm is available along with the mixing faucets.

Illustrated literature describing the various combinations of faucets and draft arms as well as other features of the Speed-Serv unit is available.

Almor Names Greenberg for Mich., Detroit-Toledo Area

DETROIT—Jonnard Greenberg, formerly associated with Western Refrigeration & Equipment Co., Hill distributor in this area, has been appointed Almor Co.'s sales manager for Michigan and the Detroit-Toledo metropolitan areas.

Greenberg graduated in engineering and studied store layout at the University of Toledo. During his seven years with Western Refrigeration, he planned the refrigeration and furnished the equipment for several of the independent supermarkets in Detroit, it was noted.

Food Sterilized by Atomic Radiation May Be Harmful If Eaten, Scientists Warn

WASHINGTON, D. C.—The National Association of Refrigerated Warehouses recently called attention to a warning by Samuel A. Goldblith and Bernard E. Proctor of the Food Technology Dept. of the Massachusetts Institute of Technology that food sterilized by atomic radiation for preservation might be harmful if eaten.

In a report to the American Chemical Society, Goldblith and Proctor said that subtle changes in a relatively few molecules of a food or drug subjected to radiation could result in products harmful to the consumer.

The biggest problem facing commercial radiation is eliminating production of undesirable side effects, according to the scientists.

Razo Named Mexican Agent for Jacobowitz

BUFFALO—Charles S. Jacobowitz Corp. here has announced the appointment of Ing. Jose L. Razo as its exclusive agent for Mexico.

Jacobowitz is a dealer in used brewery, beverage, refrigeration, and other equipment. For the past several years, Razo has been manufacturing ice and selling and distributing equipment used in the refrigeration and brewing trade.

Indicating Lights, Timers Available on New Fryer

CHICAGO—The Keating trump gas fryer is now available with indicating lights and timers, according to Frying Equipment and Supply Co. here.

Four indicating lights show: if the pilot light is ignited; if the fryer is pre-heating; if the fryer is up to temperature; this light, a red one, lights only in event of thermostat failure when the high limit control cuts off the supply of gas.

There are two timers, one for each basket of food, and the timers can be set from ½ to 15 minutes. The 14-in. model has an input of 84,000 B.t.u. per hour.

Faucet Shank Cooler Keeps Draught Beer Cool

NEW YORK CITY—A new design of liquid faucet shank cooler with the trade name "Shell-O-Tap" is being distributed by Traco Industrial Corp.

This new type of cooler keeps draught beer in the lines cool up to the liquid faucet shank and dispenser.

Constructed of aluminum, Shell-O-Tap permits three feet of ⅜-in. tubing to be wound around it. It can be installed by screwing it to the shank of the beverage dispenser.

Shell-O-Tap has a one-year service guarantee.

Worthington Detroit Office Moves, Expands

DETROIT — Worthington Corp. has moved its Detroit district office from 2824 E. Grand Blvd. to 13305 Puritan Ave.

Clarence S. Wentworth, central sales manager for the firm, whose Detroit office handles sales throughout Michigan, said the move will represent an expansion of nearly 100% over their existing facilities in the machinery building.

The new quarters will provide Worthington with about 2,800 sq. ft. of space.

To Air Condition New 11-Story Toronto Bldg.

TORONTO, Ont., Can.—An 11-story, air conditioned building will be erected at Bay and Adelaide Sts., it was announced by Gibson Bros., real estate agent and building manager. Cost of the building is estimated at $2,000,000.

Permit Restaurants To Use Bulk Milk Dispensers If Glasses Are Labeled

COLUMBUS, Ohio—Restaurants may use bulk-milk dispensers if glasses used to serve the milk are properly labeled, State Attorney General C. William O'Neill ruled.

Don Montgomery, Mercer county prosecutor, had asked for an opinion in the matter. O'Neill stated that a glass properly marked according to the Weights and Measures Act is a legal container, even if filled from a bulk milk container.

Earlier, the Ohio House Agriculture Committee voted unanimously to recommend passage of a bill permitting retail sales of bulk milk from dispensers.

Officials of the weights and measures section of the Department of Agriculture had threatened to arrest any dealer who sold milk from bulk dispensers. The order was criticized by some restaurant operators who claimed bulk milk dispensers were more convenient to use and just as sanitary.

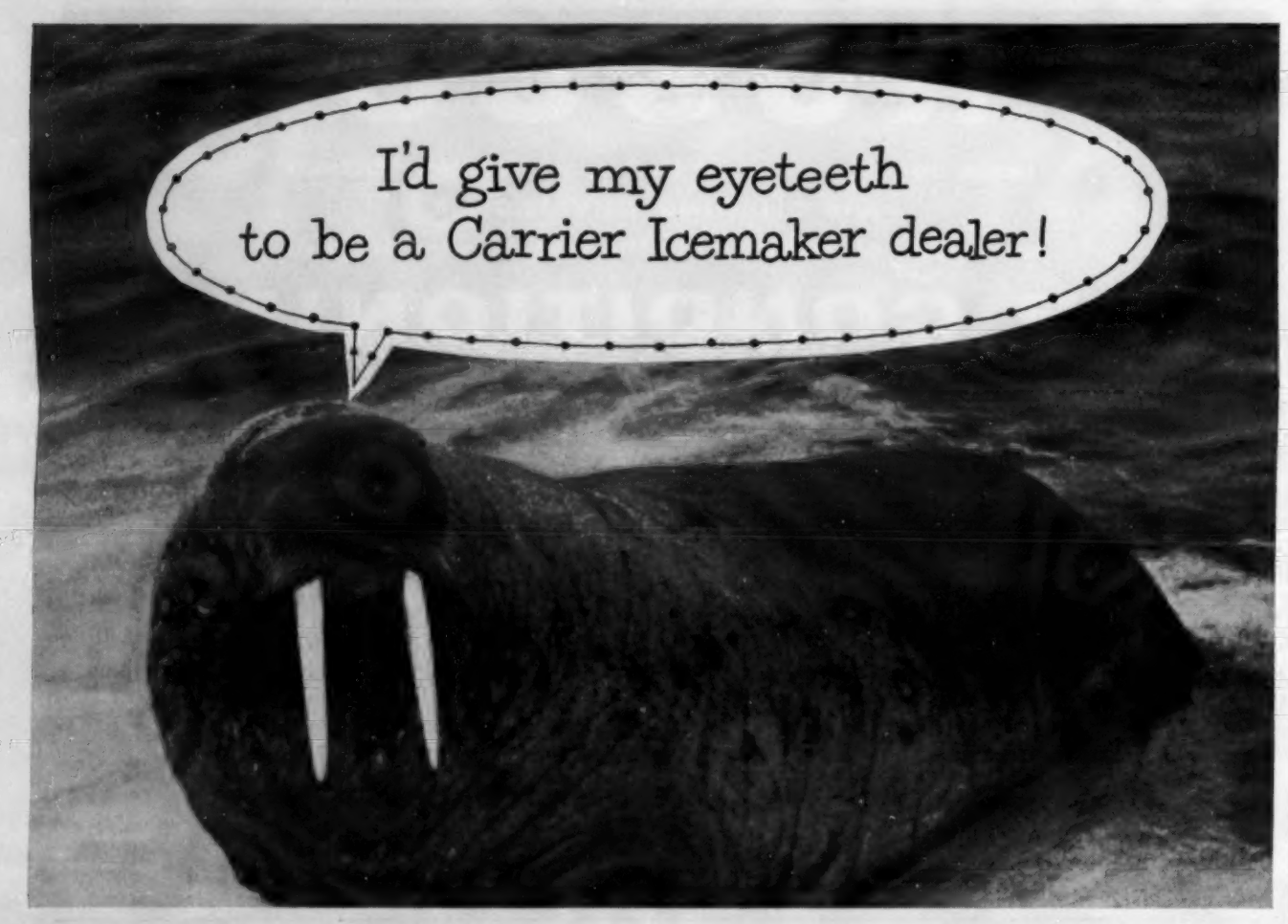
Couch To Head Chicago District for Connor

CHICAGO—Henry J. Couch has been appointed manager of the Chicago district office of Connor Engineering Corp., manufacturer of ceiling air diffusers and activated carbon air purification equipment.

Prior to joining the Connor Corp., Couch was with the American Air Filter Co. for 18 years.

NEW PRODUCTS?

Turn to "What's New" Page for useful information on new products. Use Key No. for fastest service.



Tusk! Tusk!

No need to sacrifice molars—or big potential profits, either. You can get complete information on Carrier Icemaker-Flakemaster franchises right now—in a hurry!

You'll get facts on products, prospects and profits!

PRODUCTS—**Carrier Icemakers** are available in a range of models with capacities up to 200 and 450 lbs. of crystal-clear ice per day—cubes and crushed.

—**Carrier Flakemasters** available in 1000 and 2000 lbs. per day models, both air and water cooled.

PROSPECTS—They're around every corner, on every page of the Classified Telephone Directory. They're the people your salesmen are calling on now—every day. Restaurants, hospitals, hotels, motels, food stores, even blood banks! They're buying icemakers now—why not from you?

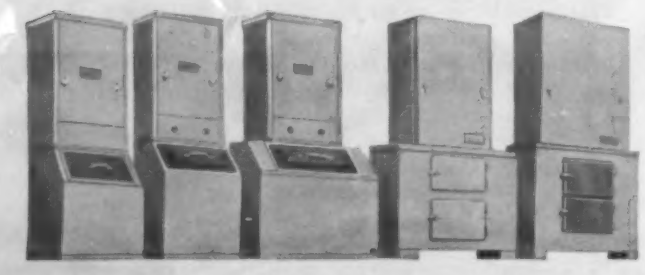
PROFITS—Here's what Carrier dealers are saying:

Ben Rader, Elmsford, New York, "I sold 62 icemakers in 90 days and not one sale was on price."

Lew Chapin, Cincinnati, "26 icemaker sales in 21 days and all were sold on savings and convenience."

Dealers like these are in the icemaker business to make money and they're making it. How about you?

Bite off a chunk of the booming icemaker business now. Find out how. Mail the coupon today.



Carrier's icemaking family offers 12 models or combinations which provide daily capacity range of 200 to 2000 lbs.; storage bin sizes are 100, 160, 240 and 500 lbs.

Carrier air conditioning refrigeration

CARRIER CORPORATION, 310 S. Geddes St., Syracuse, New York

If I'm missing out on big and continuing profits, I want to know about it. Send me full information about Carrier Icemakers and Flakemasters—and the address of the nearest Carrier distributor.

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*Address*_____

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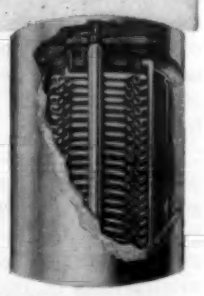
Tank Type WATER COOLERS



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Capacities: 5 to 500 g.p.h.
Storage: 2 to 240 gals.

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WHAT'S BEST FOR YOUR CUSTOMERS IS DYNAMITE FOR YOUR SALES!

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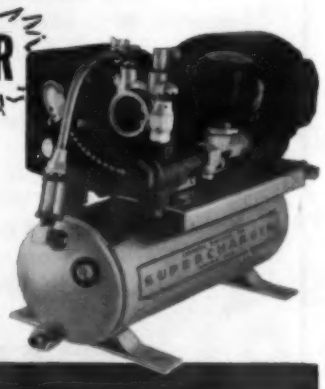

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THE PREFERRED CARBONATOR—FROM NEIGHBORHOOD TAVERNS TO THE NATION'S FAMOUS COCKTAIL LOUNGES, FROM DRUGSTORES TO MAJOR LEAGUE BALLPARKS.

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For literature outlining the opportunity now open to make bigger profits selling Carbonic Dispenser Equipment.

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Branch Offices:
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IN CANADA: GENERAL EQUIPMENT CORP., LTD., TORONTO, ONT.

New Methods, Equipment Up Man-Hour Output In Frozen Food Handling, Display

Commercial Refrigeration

WASHINGTON, D. C. — Use of new handling methods and equipment in two test supermarkets increased man-hour output in frozen food handling and display by approximately one-third, the U. S. Department of Agriculture reported recently.

According to the report, savings in time and labor were realized by such things as proper segregation of merchandise in the store's holding freezers, use of improved price-marking procedures, use of special display case dividers, and loading carts in the general order in which merchandise is displayed in the case.

Savings Start with Loading Trucks at Warehouse

Savings started with the loading out of delivery trucks at warehouses.

"Segregating the frozen food into individual store orders before loading the trucks, instead of loading by commodity and segregating the orders at the stores, greatly reduced the total time for truck loading and unloading and the store receiving time, and increased truckload capacity," the report stated.

"By segregating individual store orders truck unloading time at the stores was reduced by about one-half. The man-hours of store personnel required in truck unloading operations dropped more than a third."

The study indicated that as much of the frozen food order as possible should be put directly into display cases to prevent double handling in and out of low temperature holding freezers. Proper segregation of merchandise in the freezers cut removal time there more than one-fifth, the report said.

Improved Method for Marking Prices on Packages

Time savings also resulted when improved methods of marking prices on frozen food packages were used.

Price marking is difficult, it was pointed out, because frost on the package prevents the ink from reaching the package surface. To obtain a clear impression, the frost must be wiped off each container.

"It was found," the report said, "that edges of packages which were not against the outside of the cartons generally were not frosted over. By splitting cartons these unfrosted edges were exposed and the packages could be priced before frost formed.

"To be successful, this method requires rapid price marking. The best production resulted from the use of the porous rubber, multi-impression, stick-type stamp.

"Where frost-free surfaces could not be found, as in cartons of cans only one layer deep, wiping the surface sometimes was still necessary. Use of the same solvent used for cleaning the stamps made this wiping easy and provided a good stamping surface."

These procedures reduced pricing time more than one-third in the stores tested, according to the report.

Because some merchandisers objected to price marking on the end of pasteboard packages, an alternate method of stamping the upper right-hand corner was studied. Although not as fast as end pricing, this method was still considerably faster than conventional methods, the report said, explaining:

"Price markers opened the top and one side of the carton and slid its contents against a sloping board fixed to a table, providing a stepped series of packages with the right side of each exposed for pricing."

Price Marking In Back Room Cuts Aisle Congestion

Price marking frozen food in the back room cut time spent in front of the displays by about one-half, thus reducing a major obstruction in aisles, and allowed pricing of packages before frost formed, it was found.

This system also permitted work at proper heights rather than in awkward positions at the display cases, and provided one place for all tools, equipment, and records.

"In stores where this system was used," the report pointed out, "a small table, large enough to hold one case of merchandise, a stamp set, and the remainder of the quipment and records was located near the door of the low-temperature freezer.

"Cartons of unmarked merchandise from the freezer were placed on a cart and moved to the table where they were price marked and placed on another cart which, when fully loaded, was taken to the display cases."

New Type Dividers

New type dividers were designed in an effort to solve a "major problem" in displaying frozen food—"the tendency for packages and cans to slide around in the display cases," it was reported.

"When one row of merchandise gets low, the packages adjoining it tend to fall into the hole, resulting in disorderly displays even though considerable time is spent in straightening the cases.

"Most display case dividers do not satisfactorily solve this problem. They require an excessive amount of display space in the cases, and packages tend to hang up in the openings in the dividers, making it difficult to place the packages in the case and to take them out.

"Special dividers made of thin sheets of solid material were developed by the researchers. These were placed between all rows of merchandise but were not attached to the display case. They kept the merchandise in even rows and made the display operation much easier than formerly.

"A full set of these dividers could be placed in cases, without loss of display space, where previously only two or three of the old type had been used.

"Approximately two rows of merchandise, or one-half carton of merchandise, could be displayed above the divider. With this arrangement the case still appeared reasonably full even when there was room to display a full carton in each row.

Only Full Cartons Displayed

"By displaying full cartons only and eliminating the return of part-cases to the holding freezer, damage to the packages through double handling was prevented and the display operation was greatly speeded.

"The manner in which the cartons were opened, in either of the two price-marking methods mentioned previously, aided in displaying the merchandise. The full cartons were put directly into the display cases and both hands of the clerk were used to transfer the contents of the cartons into their proper place in the display cases."

Use of dividers was said to have reduced man-hours of labor spent in straightening the cases by more than 50%, and resulted in neater and more orderly cases.

"Where inventories of the items in the case were required, the dividers provided a convenient method of estimating the number of cans or packages in the case, since the clerks quickly learned the number of similar-sized items required to reach the top of the dividers," the report stated.

"The use of split cartons, new-type dividers, and improved handling methods reduced the labor requirements of the display operation by more than one-third in the stores tested."

Also found to be great time savers were "dump" displays of juice cans, usually used on high volume or "sale" items which often were not price marked.

The report continued: "Travel time from holding freezer to display cases can be reduced materially by taking maximum loads. However, an operator should not attempt to handle more cartons at one time than can be safely price marked and displayed without damage to the merchandise from defrosting.

20 to 30 Cartons Can Be Handled Safely

"With the improved methods and by keeping the cartons stacked tightly together when out of refrigeration, 20 to 30 cartons can be handled safely.

"By loading the cart in the general order in which merchandise is displayed in the case, an operator can make one trip along the front of the display cases, filling them as he goes by and picking up empty cartons on the return trip, thus saving considerable travel time."

Studies of the installation of all the improved methods and equipment for frozen food handling resulted in increases of about one-third in man-hour production over the best conventional methods in two test supermarkets, the report said.

REFRIGERATION and AIR CONDITIONING ENGINEER

Graduate mechanical engineer with minimum 8 years' broad experience in refrigeration and air conditioning design and project work. To render technical service to operating units and serve as a staff consultant on air conditioning and refrigeration problems related to the company's overseas operation located in Saudi Arabia.

Facilities include large central air conditioning plants with chilled water distribution systems through entire communities for residential and industrial air conditioning totaling 14,000 tons capacity plus 700 tons of refrigeration for manufacture of ice and storage of commissary supplies.

Must be capable of planning for future expansion of facilities and recommending improvements and modifications to present equipment. Thorough familiarity with refrigeration equipment of all types, particularly new developments in the industry, is also required.

Two engineers are needed: one for work in Arabia, the other for the Project Engineering Group located in The Hague, Holland.

Salary commensurate with experience and training. Write giving full particulars regarding personal history and work experience. Please include telephone number.

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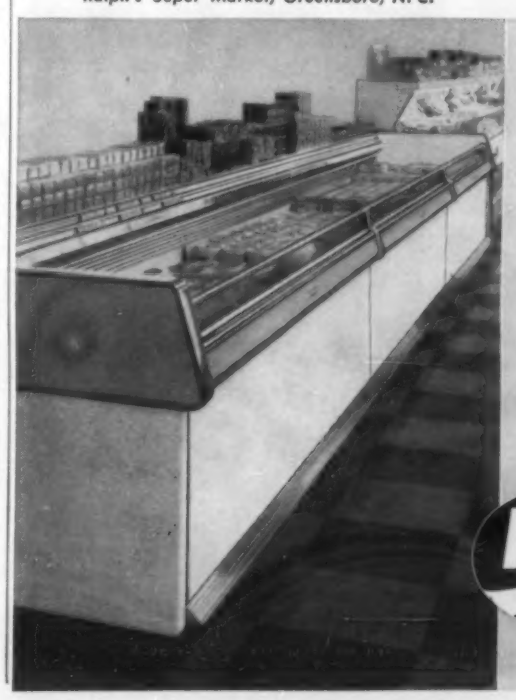
Cables : TEMTUR LONDON

Newest Angle in Food Merchandising -the McCRAY Shopping Angle

A section of McCray Frozen Food Cases in Ralph's Super Market, Greensboro, N. C.



★ **FOLLOWS BODY CONTOUR**

The new McCray *shopping angle* and kitchen counter height invite the customer to select from any point of the display. There's no stretching; no pinching of the body against handrail. These cases practically hand the food to your customers. And to supply the extra sales they generate, McCray frozen food cases give you the greatest capacity in the industry!

★ **GIVES COMPLETE VISIBILITY**

Swept-back front glass makes your merchandise easy to see from a distance, emphasizing the first point of sale. And the wide, full opening at the top of the case helps make the *selection* as easy as the *seeing*. Your *mass display* exerts its full merchandising power . . . Call the McCray man in your city or write the factory.

McCray KOLDFLO

McCRAY REFRIGERATOR CO., INC.
McCray Court, Kendallville, Indiana

Sales Offices in Principal Cities
See Classified Phone Book

Refrigeration Problems

and their solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

Blood Plasma (1)

Blood for transfusions is given to the patient either as whole blood or as blood plasma. Whole blood must be used in many cases, but plasma can be used just as well in many transfusions, particularly when the patient needs blood only to replace that lost in accidents or operations, or from wounds.

Whole blood has the disadvantage that the patient and donor must have the same type of blood, and it may be difficult in emergencies to find a donor with the required type of blood, particularly if it is a rather rare type.

Blood plasma is a liquid, and constitutes about 55% of the whole blood. To separate the plasma from the whole blood, the latter is put in a centrifuge, similar to a cream separator used in farm dairies. The red corpuscles and some of the solids are taken from the whole blood, leaving the blood plasma, a golden yellow liquid, in appearance something like yellow corn syrup or lubricating oil. The plasma is then treated with ultraviolet rays to destroy any viruses that may have been in the blood.

With the red corpuscles goes the blood type, for the plasma is typeless and may be used without regard to the blood type of the patient. After being frozen, it is stored in quantity in large blood banks, available for many purposes, including disasters in which large quantities of blood for transfusions may be required on short notice.

Whole blood or liquid plasma must be kept under refrigeration, and even then they can be kept in satisfactory, usable condition for a matter of a few days only.

FREEZING BLOOD PLASMA

The next step after extracting the plasma from the whole blood is to freeze it so that it can be kept for long periods. When needed it can then be thawed and used the same as fresh plasma. Also freezing the plasma is a step between the liquid plasma and dried plasma.

After centrifuging, when the plasma is separated from the whole blood, the 300 c.c. (cubic centimeters)—about five-eighths of a pint—is put in a 400 c.c. bottle and sealed, and it is kept in this bottle during and after freezing; also during and after the process of reducing the frozen plasma to dried plasma.

The freezing time is important, just as it is in the case of frozen foods, although not for identical reasons. The entire time of cooling the plasma from room temperature down to freezing, and then completely freezing it, should not exceed six hours. The actual freezing of the plasma should have started at 33° F. within about one and one-quarter hours after the bottle containing the liquid plasma at a room temperature of about 75° F. is placed in the freezing equipment. About three hours later, the plasma should be almost entirely frozen, and at a temperature of about 33° F. Within another one and one-quarter hours, the plasma should all be solidly frozen, at which time its temperature will be down to about 22° F.

The frozen plasma is then subcooled to about -5° F., the temperature at which it is stored. The subcooling of the frozen plasma usually requires about two hours.

Approximately 135 B.t.u. must be removed from the 300 c.c. of plasma and the bottle, to cool them from room temperature, freeze the plasma, and further reduce the temperature to -5° F.

METHODS OF FREEZING PLASMA

Freezing of blood plasma has been done in a number of ways. Since freezing must be done quickly, freezing it by placing the bottles of liquid plasma in dead air in a low temperature cabinet, such as an ice cream cabinet or a home freezer, is generally unsatisfactory.

Forced convection of cold air over the bottles greatly increases the rate of freezing, but the two most commonly used methods are (1) contact freezing, and (2) shell freezing.

(1) Cabinets similar in general construction to home freezers are equipped with vertical plate-type evaporators to which are attached special shaped racks to hold the bottles in a slanted position. This puts the bottles and plasma in good thermal contact with the cold evaporators, and the plasma is frozen rapidly.

This method is suitable to the freezing of plasma in small quantities, if the plasma is to be stored in the frozen state and later thawed and used.

(2) In the shell-freezing method, a shallow pan filled with an alcohol solution is fitted with a set of rollers that can be mechanically operated. The sealed bottles of liquid plasma are placed in the cold alcohol and rolled slowly.

The level of the alcohol solution is maintained about one-half inch above the level of the plasma in the bottle, with the bottle on its side on the rollers.

The alcohol solution is held at about -30° F., and is pump-circulated from a separate low temperature liquid chiller containing the evaporator coils. Instead of chilling the alcohol solution by mechanical refrigeration, dry ice has been placed directly in the alcohol.

However, the cost of operation, using dry ice, is very high compared to mechanical refrigeration; and in addition, the heavy pungent odor thrown off by the alcohol-dry ice solution is very distressing to the laboratory personnel. Moreover, temperature control is more difficult, and the very low temperatures that can be obtained by dry ice in alcohol are unnecessary.

With the alcohol down to temperature, the sealed bottles of liquid plasma are placed on their sides on the rollers and the rollers started to operating.

After the bottles have rolled for about ten minutes, the rollers are stopped for two to four minutes, during which "snap freezing" of the lower part of the plasma in the bottles takes place. The rollers are again started and run until all of the plasma is frozen in the bottle, which takes about one and one-quarter hours.

Bottles are then removed from the sheller and placed in a low temperature cabinet to fully complete the freezing and reduce the temperature to about -5° F.

Plasma freezes to the sides of the bottle as the bottle slowly rolls, and gradually builds up to form a cylinder of frozen plasma with an open core down the center, thus giving the process its name of "shell freezing."

Because of the low temperature of the alcohol solution, and because of the excellent heat transfer from the plasma to the alcohol and agitation of both the plasma and the alcohol solution, the rate of freezing, using the shell freezing method, is very high. This method is very popular where large quantities of plasma must be frozen, and is the necessary method if it is to later be dried.

(To Be Continued)

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Insulation Adhesives

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- long-lasting high bond
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Temprite QUALITY
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Year after year, Temprite keeps right on adding features and adding quality. We ask that you compare Temprite with any of its competitors in any manner you see fit; Temprite's beautiful exterior with its lustrous stainless steel top is a true reflection of the fine workmanship beneath its panels.

This year, capacities of some models have been increased as much as ten per cent!
DUAL water controls (finger tip plus toe) are standard on most pressure-bubbler models, and new DUAL thermostats give double protection against the possibility of accidental freeze-up.

This year as always, Temprite quality shines through from within!

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CAST ALUMINUM LIQUID COOLERS Separate refrigerant and water circuits cast within aluminum block. No freeze-up damage.

Request complete descriptive bulletins on these and other Heat-X products.

HEAT-X, Inc.
BREWSTER • NEW YORK

Mammoth Names Bel-Air Eastern Representative

ST. PAUL—Appointment of the Bel-Air Co., Belmont, Mass., as manufacturer's representative for the sale of "Mammoth" furnaces and "Commercial-Aire" direct-fired space heaters has been announced by W. A. Matheson, Jr., vice president of The Mammoth Furnace Co. here.

Bel-Air's territory includes Maine, New Hampshire, Vermont, Rhode Island, part of Massachusetts east of and including Worcester county.

Turn to "What's New" Page for useful information on new products.

ONE MAN can walk
an Air Conditioner
UPSTAIRS **ALONE**
and put it in the
window without help
with the new L-S
STAIRWALKING DOLLY
write
L-S HTG. & ENGRG. CO.
Philadelphia 40, Pa.
Territories Available

CORRECTION

R. H. Spangler & Co. Does No Repair Work

A story in the April 18 issue of the NEWS on the opening of R. H. Spangler & Co.'s Springfield, Ill. operation indicated erroneously that the firm repairs air conditioning, refrigeration, heating, and plumbing equipment.

Actually, it was pointed out by H. A. Spence of the company, "we are strictly wholesalers and do not do any service or repair work."

Food Fair Plans To Spend $50 Million on New Stores

PHILADELPHIA—In the next 28 months, Food Fair Stores, Inc. plans to build 100 stores at a cost of $50 million. Louis Stein, president, said addition of the stores will raise the number of the firm's outlets to more than 300, with annual sales of about $650 million.

Gal-Mac In New Store

SCRANTON, Pa.—Gal-Mac Appliances' new store has been opened at 217 Penn Ave. An extensive kitchen planning department is a feature of the store.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

AIR CONDITIONING and commercial refrigeration installation man, 16 years' experience, interested in relocating in small city with opportunity to buy into business. Prefer South. Will expect to work with firm before investing to assure mutual satisfaction. Have mechanical ability, engineering knowledge and customer experience to be an asset to any firm. BOX A5225, Air Conditioning & Refrigeration News.

EXECUTIVE ENGINEER — 20 years' diversified experience in metal fabrication and machine tool operations. Seasoned in all white appliances—manufacturing, engineering and sales. Salary—five figures. BOX A5232, Air Conditioning & Refrigeration News.

TEST ENGINEER desires position in Midwest or New England. Age, twenty six. Three years of college with three years' additional experience. Testing experience includes laboratory testing of air conditioning coils and units. Also experience as inspection and test engineer of environmental test chambers. BOX A5234, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

FACTORY SERVICE representative for General Electric air conditioning. Work with distributors in Virginia, Maryland, and North Carolina. Headquarters in Richmond. Thorough knowledge of application and service for commercial and residential air conditioning. Some sales experience desirable. Send full details, including salary desired, to—A. D. O'Connell, Product Service Manager, GENERAL ELECTRIC COMPANY, 5 Lawrence Street, Bloomfield, N. J.

SALESMAN, REFRIGERATION parts, supplies and equipment, for wholesale jobber New York and region; permanent, all year, good opportunity and set-up for capable individual. Write giving full qualifications, education, experience and expected income. All information held strictly confidential. Past employers not contacted without permission. L. A. KESTENBAUM, INC., 1225 Broadway, New York.

MANUFACTURERS' REPRESENTATIVES: If you are looking for a line of cooling towers, write us for details on our line of Alumatowers. Many outstanding new features. 3 to 26 tons. Top commission. Several territories open. Replies confidential. Write JIM KNOBLOCH COMPANY, 2301 Alexandria Pike, Newport, Kentucky.

WANTED — MANUFACTURER'S representative traveling New England area to represent well-known and quality line of room air conditioners. Some established distribution. A permanent and profitable proposition for a hustling District Sales Manager. Immediate action is urged. Write to: F. A. Mitchell, General Sales Manager, REMINGTON CORPORATION, Auburn, New York.

DISTRICT MANAGER for Midwest—to headquarter in Chicago. Primary duty establishing new distributors and developing further sales through those already established. THE WARREN COMPANY, Box 1463, Atlanta 1, Georgia, established 1882, one of country's leading commercial-refrigerator manufacturers. Salary, incentive plan, expenses. Prefer experience in this field. State full background.

DO YOU call on locker plants? We need coverage in this type account for our nationally-famous home freezers—we ship direct at realistic factory prices—locker operators are leading all other outlets in freezer sales. Add our freezers to your line and double your commissions immediately. TRI-STATE ELECTRIC MFG. CO., Box 836, Lima, Ohio.

WANTED: MANUFACTURER'S representatives by nationally-known manufacturer of baseboard, fintube, convector, radiation, remote room air conditioning and water chilling units for residential and industrial use. Available territories: Connecticut, western Pennsylvania, Ohio, Kentucky, North and South Carolina, Georgia, west north central and mountain states and northwest. Also eastern territories for industrial products. Write BOX A5228, Air Conditioning & Refrigeration News.

CARRIER AIR conditioning and heating contractor in Ohio wants an experienced man to work with manager. Must be familiar with service, installation, design and engineering applied air conditioning jobs. Man must be able to work with engineers, contractors, architects and customers. Pleasant working conditions, good salary and expenses. Send employment application in with inquiry, desired salary, detailed experience background and photo if possible. BOX A5231, Air Conditioning & Refrigeration News.

MANUFACTURER'S AGENT wanted by national manufacturer of complete line of store coolers (to 15 Ton), central packaged conditioners, air-cooled "remote" units and room air conditioners for Metropolitan New York City. Successful applicant must be well-established in this market. Reply to BOX A5236, Air Conditioning & Refrigeration News.

DESIGN ENGINEER, knowledge of domestic refrigerators and freezers, also packaged commercial items. Good opportunity with eastern manufacturer to conduct and manage department. Write your past experience and present connections to: President, BOX A5238, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

RATED DISTRIBUTOR interested in purchasing up to 200—13 to 20 cubic ft., heavy-duty upright freezers with inner doors of quality manufacture. Send full details, price and availability to BOX A5235, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

75-TON YORK air conditioning equipment, consisting of York compressor, 75 h.p. Westinghouse motor and starter, blower with 7½ h.p. motor circulating pump with 10 h.p. motor, shell tube condenser and miscellaneous parts — $2,500.00. ACME ELECTRIC COMPANY, St. Louis, 2, Missouri.

REFRIGERATION VALUES: Attention servicemen; send for our catalog of refrigeration parts; savings up to 50%. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Ave., Chicago 13, Illinois.

FRANCHISES WANTED

CALIFORNIA SALES representative: Specialty items in refrigeration and major appliance fields are articles in which we enjoy outstanding reputation for setting up and handling distribution. We have the experience and contacts and can handle additional line for California alone or including Arizona, Nevada and Utah. BOX A5237, Air Conditioning & Refrigeration News.

Government Contracts

DEPARTMENT OF DEFENSE

Description	Quantity	Invitation No.	Opening Date
Officer in Charge of Construction, Ninth Naval District, Bldg. 1-A, Great Lakes, Illinois			
Construction of a 4-story bldg., addition to an existing bldg., approximately 77 ft. 5 in. wide by 140 ft. long, of reinforced concrete and masonry construction. The building will contain plumbing, heating, ventilating, air conditioning, compressed air and electrical systems. Certain Government furnished equipment will be installed by contractor. Work located at Naval Ordnance Plant, Indianapolis, Ind. $30 deposit required for plans and specs.	Job	44026	24 May 55
Commander Dayton Air Force Depot, Gentile Air Force Station Attn: Directorate of Proc. & Production, Dayton, Ohio			
3360-073943520 switch, thermostatic SPST weigand P/N 2-13879.	100 ea.	3279-Q	16 May 55
3360-073943512 switch, thermostatic SPST fenwal P/N 17303-6-450.	100 ea.	"	"
3360-07343515 switch, thermostatic SPST Douglas Acft P/O P/N 5292379 Appl dwg No. 5285832 fenwal P/N 18423-G38.	100 ea.	"	"
3360-073943602 switch, thermostatic SPST Control products inc P/N ASA13-1-5 code No. 81901 dwg 201066.	200 ea.	"	"
3360-NSL switch, thermostatic SPST fenwal P/N 17343-11-525.	1500 ea.	"	"
Purchasing and Fiscal Officer, for Maryland State Military Reservation, Havre de Grace, Maryland			
Heating, ventilating, electric work and roofing in shop bldg., S-1 and Warehouse Bldg., W-1, State Military Reservation, Havre de Grace, Harford County, Maryland.	Job	18-070-55-4-B	24 May 55
Purchasing and Contracting Office, Ft. McClellan, Alabama			
Fan, exhaust, attic, assorted sizes.	42 ea.	01-088-55-22-B	9 May 55
Naval Air Material Center, Philadelphia, Pennsylvania			
Services, material, furnish, install one prefabricated, counter flow, induced draft type cooling tower, size 30' x 60' plus necessary height, to cool clear water at rate 50,000 GP from temperature 95° F. d.b. to temperature of 83° F. d.b., ambient air temperature 76° F. w.b. complete with motors and fans. Fabricated clear heart and select heart California redwood.	Job	156-251138 55-Q	16 May 55
Galveston District, Corps of Engineers, P.O. Box 1229, Galveston, Texas			
Theater consists of a masonry bldg., designed for 750 seats and air conditioning supporting outside utilities sideswalks and paved parking areas schedule 11 recreation gymnasium of masonry const with approx 23,000 sq. ft. floor area award will be made by schedule.	Job	ENG-41-243 55-64-B	27 May 55
Installation of a 20-ton packaged air conditioner incl ductwork ceiling diffusers and other necessary electrical connections.	Job	ENG-41-243 55-65-B	17 May 55
Headquarters, Air Materiel Command, MCPSDC-2) Wright-Patterson Air Force Base, Ohio			
Dehumidifier dessicant elec remov cap 7 lb water per hour type (FL-1) spec Mil-D-4686 (USAF) dtd 14 Dec. 53.	93 ea.	RFP-55-5265Q Prime Class	23 May 55
Bid Sets applicable to the Air Force Procurements printed above are available at the above address. In addition, Bid Sets are available for EXAMINATION ONLY at Air Force district and sub-district offices listed for convenience of publication on Page 1, Column 1, immediately following the information paragraph on Air Force Procurement.			
Chicago Quartermaster Depot, Quartermaster Purchasing Div., Chicago, Illinois			
Bid forms now available. Do not request after opening date.			
Case, display, refrigerated: meat self service.	15 ea.	55-390-B	16 May 55
Frozen food.	29 ea.		
Officer in Charge of Const., U.S. Naval Sta., New Orleans			
Additional deep freeze and storage facilities building H-11 Naval Hospital, Corpus Christi, Texas.	Job	43894 (NOy-86296)	26 May 55

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
General Services Administration, Business Service Center, 7th & D Sts., S.W., Washington, D. C.			
Condensing Unit.	1 ea.	4H-60970	23 May 55
Air Handler.	1 ea.	"	"
Business Service Center, General Services Administration, 620 Post Office and Courthouse, Boston 9, Massachusetts			
Furnish all labor and materials for new heating system at US Post Office and Courthouse, Providence, Rhode Island.	Job	BOS-55-165	18 May 55

20,000 PAID!

AIR CONDITIONING & REFRIGERATION NEWS reaches a new high in PAID circulation. April marked the first month in NEWS' history that average paid circulation exceeded 20,000.

The proof of a publication is in its sales. And today more people are paying more money than ever before to read The NEWS. PAID circulation assures you an interested audience, one in which all deadwood and *duplications* have been removed from the list of readers. With The NEWS, only those interested pay to subscribe and renew their subscriptions.

Advertise to the best prospects—prospects you can be sure are regular readers. Remember, *PAID circulation is the only guarantee of readership.*

AIR CONDITIONING & REFRIGERATION NEWS

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521 Fifth Ave., New York 17, N. Y. | 134 S. La Salle St., Chicago 3, Ill.

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Eye-Witness Background Story of 'Operation Mis-Cue'

(Continued from Page 1)

which will hold the bomb is about 25 by 25 ft. square, so following the tactics of questioning in TV's "What's My Line," we know that it is larger than a baseball, and smaller than a 25-ft. square room.

It is revealed that the shot will be made from a 500-ft. tower, and will be what is known as a "static shot."

Purpose of this particular operation, "Operation Cue," will be, to put it simply, to learn how the effects of a nuclear explosion—blast, heat, light, and radiation—affect the routines of everyday civilian life.

What Will Be Studied

These effects will be studied in three main categories:

1. Radiological contamination.

2. Biological and medical effects.

3. Effects on structure, engineering services, materials, and functional designs.

There is considerable discussion on the matter of "fall-out" from radioactive material. Generally, the gist of the talk tends to minimize the dangers of fall-out in areas at any appreciable distance from the explosion. For one thing, the various types of dangerous radioactive elements lose their punch in a sort of geometrically progressive pattern from the point of explosion.

Shown to the group is a color film made for the A.E.C. which gives a story of the tests, and which also tends to correct some of the misapprehension about fall-out. It will probably be made available to local civic groups, and your correspondent recommends it as an interesting, informative motion picture.

However, one of the great hazards from the explosion—as great a hazard as the actual explosion effect itself—will come from missiles in the form of debris that results from the tearing, explosive force let loose by the nuclear weapon. This is one of the reasons that proper shelter at the time of an attack is so important.

Vital Food Supply

The study of the effects of radioactivity on various kinds of foodstuffs is all-important, in terms of feeding operations after an attack. The results of "Operation Cue," it is hoped, will demonstrate how foods may best be protected from the effects of an explosion, and how much radioactivity they can absorb without becoming dangerous.

Reason for holding test shots at dawn, we learn, is not so much a matter of the weather, as for obtaining maximum photographic effects.

The mention of dawn brings another warning about the "ambient" conditions in the observer area during the pre-dawn watch that will precede the actual detonation of the bomb.

"Up there we use a 'Texas barometer,'" says Hal Goodwin. "That's a 40-lb. rock hung on a chain. When it swings straight out, we don't work that day."

Then comes the day of the pre-shot trip to the test site.

The pre-shot trip to the test site starts off on U.S. Route 95 (the road to Reno). On either side of the road the rough Nevada terrain, sagebrush, and a few Joshua trees, lead up to ranges of mountains on both sides.

The bus convoy rolls past the Spring Mountains (one of which is Angel's Peak, favored spot for the public to get a view of the blast effect), and Indian Springs Air Force Base.

Test Site Covers 415,000 Acres

Shortly after swinging past the air force installation, the road turns off onto the Nevada Test Site, this being approximately 65 miles northwest of Las Vegas. The test site covers an area of approximately 415,00 acres, roughly 40 by 16 miles, the long direction extending north and south.

After passing the Army's Camp Desert Rock, which houses soldiers who participate in military maneuvers in connection with the explosion, you come upon Camp Mercury, and Mercury Gate, which is the check point for those entering the site. You do not need individual checking there, as your credentials have been checked by a staff member while you were on the bus. Camp Mercury is a peaceful appearing place, women and children are seen in the living area, going about normal pursuits.

The terrain now becomes somewhat rougher, and the buses go up and down a succession of hills. Then the bus captain points out Frenchmen's Flat, the dry lake area where the first series of test shots were fired.

Then over Yucca Pass, which connects Frenchman's Flat and Yucca Basin, and you are into Yucca Basin. High on top of the pass is the control point, used for the test operation. Yucca Flat itself is a sandy dry-lake bed, used as an air landing strip. Yucca Basin extends on some 20 miles northward, and it is laid out for 10 firing areas.

The "Operation Cue" shot site is on Jackass Flat, which is at the northern end of the Basin.

As the convoy passes News Nob, a rocky promontory on which observers sat to view early tests, a turn is taken up a road leading to Media Hill, which is to be the observation point for the pass.

Then someone yells "There's the tower."

'The Tower'

And so it is, standing stark and naked due north from the observation area, an evil, ominous-looking thing.

There is a moment of apprehension, for it seems very close. Actually, it is quite a few miles off. The mirage effect of the desert, plus the mountain background ("it sure plagued our range finding in Korea," says one veteran of the artillery) distorts a proper perception of distance.

Media Hill is a slopingly cleared off area affording the best high-spot view within safe and reasonable range of the blast. It has few structures — an announcement stand, a mobile home headquarters for the staff, and a Western Union message sending shack. There are some picnic tables about, and facilities generally are on the "field exercise" order. Latrines are Army slit-trench style.

From Media Hill, on that pre-shot trip, the buses convoyed us to the test site area. We rode up the rough terrain of Jackass Flat, past some Joshua trees that had been snapped off at the base, or bent completely over, by the force of previous blasts.

However, the ground is not badly chewed up, and it is explained that devices exploded from a tower or from an air drop, while raising up a lot of dust, do not dig up big holes in the ground.

Then suddenly we are at the 4,700-ft. mark from "ground zero" (location of the tower). It is the closest that we will be allowed to approach the tower. The tower looks more evil than ever at the close range, particularly with the red lights that blink on the top of it.

Garroway's Pre-Dawn Vigil

The forward area that morning is full of bustle—considerable of it generated by the TV crews on hand. TV personalities such as Dave Garroway are sitting around on camera booms, looking weary and unkempt from their pre-dawn vigils. The TV crews grouse because the writers and observers mill around, with the possibility of pulling out some of their cables. The writers gripe because TV has tied up some of the houses they want to see, taking movies for future film presentations.

At this distance from ground zero, the bomb damage will be about mid-point between the "A" and "B" zones of damage, as calculated by the A.E.C., which means somewhere between total destruction and maximum secondary damage.

House Contains Refrigerator, Washer, Range, Water Heater

Among these houses are a two-story house of cinder block faced with red brick, which is equipped with a Servel gas refrigerator, a Whirlpool washer, gas range of unknown make, and a Rex water heater.

A one-story house of masonry blocks has a Servel refrigerator, and a gas range. Equipment in a one-story frame rambler house includes a Duo-Therm heater, Hot-spot water heater, and a wall-type gas furnace.

A Frigidaire food freezer, in which will be stored frozen foods to undergo tests in this nearly maximum damage area, sets in a one-story house of pre-cast concrete slabs.

There are other items of equipment of interest on this line. Set behind the two-story house is a huge hydraulic press, which will thus be exposed to considerable missile effects. Also on this line is a complete electrical power system, an underground gas system, and a liquified petroleum gas tank and charging shed.

Refrigerator, Range In 'B' Zone

Moving back to the 5,500 ft. area, which is definitely in the "B" zone for a nuclear device explosion of this kind, is a two-story frame house, strengthened after the 1953 tests. It houses, among its furnishings, an Admiral refrigerator and range.

At the 7,800 ft. mark, on a 110° azimuth line from ground zero, is a two-story frame house in which there is reportedly (we were not taken to see this structure) a complete complement of Norge appliances. At the 10,500 ft. mark, where the damage will be mostly through fall-out and some thermal effect, is a one-story yellow rambler frame house with a complete complement of Frigidaire appliances. Also on this line is a row of mobile homes (house trailers) two of which have Frigidaire refrigerators.

It is windy and the dust is choking on the flats that day, and one is glad to leave the forward area, feeling somewhat sorry for the Army units, tanks, and others, who must be up in that forward area every day.

Tower Becomes Symbol Of Mightiest Force

Just before the convoy starts back, it is noticeable that almost everyone stops for one last look at the tower—a sort of a fascinating and not exactly impersonal symbol of the mightiest force of destructive power ever conceived by Man.

In the forward area, at the 1,050 ft. mark (where we were not permitted to go) were the heavy-duty underground shelters for personnel remaining at industrial posts. This shelter program may be all-important to industry, for it is certain that while evacuation of the civilian population is generally recommended, there are many industrial operations which could not be abandoned, or which would have to go back into operation quickly after the attack had passed by.

Air Conditioning and Refrigeration Role

The shelter program is one in which the air conditioning and refrigeration industry may have a particular, as well as a general interest.

First night that the various groups assembled for the trip to the pre-dawn watch at Media Hill, there was a genuine air of tension, and high spirits on the part of participants.

John Daly, TV news commentator and panel conductor, and Bob Considine, Hearst newspaper star reporter and columnist, took front row seats on your correspondent's bus, and challenged all who would enter.

"Are you media people?" they inquired.

"What are media people anyway," asked Considine.

"Must mean they are medians, can't be over 5½ ft. high," was Daly's contention.

Daly was nattily attired in a blue Andover (exclusive eastern prep school) jacket, with cap to match. It seemed like hardly adequate protection against the weather to come, and true enough, not too long after TV's star commentator disembarked on Media Hill, his face was matching the color of his jacket.

There was considerable jesting and tall talk on the way up to the test site. Newspapermen pulled no stops in telling their tallest tales, and ex-GI's reminisced about their most harrowing experiences. All this was only on the first trip, however. On subsequent bus rides everyone just slept.

Arrival at Site Exciting

There was something exciting, too, about the arrival at the site, with the bus convoy roaring up Media Hill, brightly lighted with the big floods for the TV setup. And in the distance was the tower, marked by a big light on the top, and at the base.

The night that the bomb didn't go off will probably always be remembered by those who were there as "that night on Media Hill."

The book had warned us, and Hal Goodwin had warned us, that it was going to be cold, bitter cold. He had made a witticism that at the last test, the cold was of greater concern to the staff than any possible effects from the bomb blast.

The press corps and the observers who were to be stationed on media Hill took this to heart, but quite evidently half-heartedly —despite the warnings of veterans of previous tests. What they showed up in was a variety of costume that was a sort of mixture of a hard-times party, gala costume affair, with a little touch of the opening of hunting season.

Veterans from World War II had dug out the remnants of fatigue uniforms in every conceivable variety. Hunting jackets and hunting caps were much in evidence, and those who had caps with earlaps were to be envied. Army surplus stores were wiped out of supplies of coveralls, Chino pants, and padded coats.

Sarah Churchill Resembled 'Winnie' In Her Outfit

Feminine members of the contingent on Media Hill were in a variety of costumes that were indescribable. Some were so bundled up in old jackets, coats, and all kinds of old pants as to be hardly capable of being distinguished as members of the opposite sex. Some, like Detroit's Common Council President Mary Beck, in stylish riding habit and boots, maintained some semblance of chic. Ski suits were considerably in evidence. Sarah Churchill turned up in an outfit not too unlike the siren suit worn by "Winnie" during the War.

But no one, not even the veterans of previous tests, were quite prepared for the bitter chill of that night. It was hard to conceive, after the sunny days in Vegas, that one was about to face Arctic-like conditions.

Winds Reached 60 Miles Per Hour

The temperature on Media Hill that night got down only to 26° F., but the winds which had reached up to 60 miles per hour the previous day were still blowing with not too diminished force (up to 40 m.p.h., it was said), and the effective temperature was a great many degrees lower.

Thus, shortly after arrival on Media Hill that night, when the preliminary briefings and formalities were over with, it soon became evident to all concerned that the problem until Shot Time would be strictly one of trying to stay warm.

There were not many places in which to take shelter on Media Hill. There were not many sources of heat. No fires of any kind were permitted.

This situation led to all sorts of efforts and ruses to keep warm. Those who could find shelter in the few automobiles allowed on the hill did so immediately. Once in, they just never got out.

A trailer coach (or mobile home as that trade prefers to call it) that normally might accommodate, with crowding, 10 people, at one

(Concluded on next page)

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WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

Sidelights of a Sorry Situation--

(Concluded from preceding page)

time held 38 persons (by actual count). "Crowd kept it nice and cozy" one of the lucky occupants related later.

A supposedly true story is that of the major who was aide to Maj. Gen. William F. Dean, and who was supposed to have wakened the general to get him out to the test site in time for the blast.

The Major Overslept

But the major slept on through the appointed time, and General Dean, waking up on his own, hustled out to the test site.

When the General next encountered his aide, he demanded:

"Where were you this morning?"

"Sir, I overslept," mumbled the apprehensive major, fearing a court-martial.

"You are the only smart so-and-so on this whole operation," was General Dean's only reply.

Those who were forced to remain out on the bare surface of Media Hill resorted to every sly ruse at their command to try to survive the cold.

Your correspondent teamed up with Harold Hurby, senior city councilman from Los Angeles, in an act that worked out well for a while. Investigating the small prefab headquarters house of the FCDA, we found that the staff was having trouble with a small electric heater.

'Experts' Come A-Cropper

Posing as expert electricians, Councilman Hurby and your correspondent kept the gag long enough to avoid frostbite, until our fraud was discovered and we were hustled out of the place.

Councilman Hurby's pride in being a southern Californian probably added to his misery. On his way up, he boasted that he hadn't worn a hat in 20 years, because of that area's salubrious climate. Before the evening was over, he was wishing he had worn a beaver hat, and was trying to keep his ears from becoming frozen by tying a handkerchief around his head.

These observers from the south were particularly hard hit, probably because they just couldn't conceive of weather like they were getting.

"Never have anything like this in our hills," chattered West Virginia's Governor Marland through blue lips.

Genial, longtime Mayor Bill Hartsfield of Atlanta, looking every inch a statesman, was immaculately outfitted in gray Fedora hat and a lightweight stylish blue topcoat.

Proper Costumes Weren't For Style

A mayor of a northern city, his head covered by a pink golf cap on top of a red bandana that covered his head and tied under the chin, was pointed out to the Atlanta mayor, as having the proper costume for the occasion.

"I don't know," said Atlanta's chief executive, "before I got into a get-up like that I'd have to find out if he was a first-termer, or if he has been re-elected. I sure wouldn't do it if I found out he was a first-termer."

The southerners, with their usual resourcefulness and good humor, set about to solve the problem in their own way. Recalling their farm heritage, they figured rightly that the warm place in the herd is in the middle, they set out to find a place for themselves in the middle.

Placing themselves as a group before the flood lights (which offered some measure of warmth) they did some shilling:

"Right this way for the best view of the boom-boom," they cried, in best carnival barker style. "If this isn't the best spot, why would the lights and TV cameras be here? Take a stand right here in front, and get the heat from the lights and best view at the same time."

In a short time they had four or five layers of human beings in front of them, and it was downright comfortable. Your correspondent knows, because he joined forces with them early.

Hot Coffee Seemed More Precious Than Jewels

This worked out fine until somebody hollered that the coffee and doughnuts line was open. The "mess call" broke up everything, and dignified high officials broke like in a panic to get the old "coffee and" which probably seemed more precious than rare jewels at the time.

One other smart group found the generator that was supplying the lighting system, and clambered over it like ants over a drop of honey.

There wasn't much official briefing done over the PA system that night. As it was getting close to shot time, somebody was giving a general weather briefing, when the booming voice from the control point (remote) PA system came booming on:

"The shot is off. Board your buses for the return trip."

A murmur that seemed a combination of disappointment and relief went through the crowd.

The voice from the control point had hardly trailed off into the distance before Bob Considine had the wraps off his portable typewriter, parked it on one of the picnic benches, and was knocking out his story. Other reporters hustled to get their stories off to meet a deadline.

Incident In the Latrine

On the way back to the buses, your correspondent stopped at the latrine. It was almost pitch black in the canvas-enclosed facility, but your correspondent was able to ascertain that the blast of profanity he heard came from a big, rugged Army colonel, who had narrowly missed losing his footing and slipping at a very crucial point.

"That's all I'd need to make this blankety-blank night complete," he growled, "to slip into this blankety-blank slit trench."

Subsequent nights were not nearly so difficult. They let us sleep on the buses until H-hour less one. It was much nicer that way.

After that bitter first night on Media Hill, subsequent trips that proved fruitless were pretty much anti-climatic. The second one was close, a shift in winds at the last minute apparently being the reason for the call-off.

Only Minutes To Go

The "count-down" to H-hour by minutes had already started, all press and private cameras were set and ready to go, when the "we regret that the weather is unacceptable for the firing of a shot" came exactly 13 minutes before H-hour.

The routine for these later expeditions became "routine," one might say. The weather briefing session that determined whether the observers would be taken to the site came at 9:45 p.m. The announcement was made about 10:30 p.m., and hotel switchboards were alerted, announcements were made over loud speakers in the gaming casinos, and radio stations broke into programs to broadcast the alert.

The buses (for Media) loaded at 11:30 p.m. and most everyone slept on the way up, in the buses (which after the first night were parked on the hill) at the site, and on the way back. Occasionally one climbed out to get bulletins over the loud speakers, or to look up individuals, or just to stretch his legs and get in the doughnut line.

Project Soon Renamed 'Operation Mis-Cue'

The usual good humor and ready wit of the American journalist soon asserted itself. "Operation Cue" was soon re-named "Operation Mis-Cue" or "Operation Nothing."

On one return trip the bus in which your correspondent rode amused itself with inventing names for this beleaguered group. The three given most popular acclaim were "The Royal Order of Wild Goose Chasers," by William Lawrence, the distinguished science reporter for the *New York Times;* "Mercury Bus Riders Club" by another newspaperman; and "The Original Atomic Bums" by your correspondent.

Also to wile away time on the bus, the newsmen worked out a song parody, directed to the test director, which to the tune of "Daisy, Daisy" started like this:

"Alvin, Alvin, Give Us Your Answer True

"Do We Ever Get Off Operation Cue?"

It was proposed that this be developed into a full-length musical production and offered to Broadway, until someone raised the question of how any set design could ever do justice to Media Hill.

Some energetic jokers were also at work on Media Hill. The FCDA had proudly erected a neatly painted sign, posted high on a utility pole, which proclaimed the area as being "Media Hill, Nev., Pop. 1800." After the third postponement some agile clown had climbed the pole to scratch out the two zeroes on the population figure.

Postponements Pose All Kinds of Problems

The postponements posed all kinds of problems to newspapermen, most of whom were prepared for no more than one postponement. What with the temptations offered by Las Vegas, the matter of funds became a pressing problem, and the standard joke among the Western Union Operators was that newspapermen were sending out more wires asking for more money, than they were filing stories.

For the newspaperman who had to file a daily story, the problem became nearly insurmountable.

Clowned one of them:

"I had a one word lead (opening paragraph) of a story all worked out. It was 'Sh-Boom.' After the first postponement I just cut it down to—

"Sh-"

Some of the big name writers on hand for the event had to stretch a little to get copy. One of them wrote that one of the high explosive detonations (done a couple of hours before the A-blast as part of the weather check) "glowed in the desert like the red eye of a giant drunk."

Said one disgruntled garden-variety of reporter after reading this:

"I didn't see no such thing. The guy must have been looking into a mirror."

The delay also brought problems for the many state and local officials who were on hand. Because of their position as civic leaders, they could hardly participate in many of the recreations offered by Las Vegas.

Motor City Mayor Makes With the Parlor Tricks

Among those who abstained completely from any such indulgences was Mayor Albert E. Cobo of Detroit, who has a national reputation for keeping the Motor City free from any sort of open gambling.

However, Mayor Cobo has a pretty fair bag of parlor tricks, and he was entertaining some friends with these one night when one of the owners of a big hotel on the Las Vegas strip chanced by. Openly admiring the Mayor's skill, the Las Vegas operator told him:

"Mr. Mayor, if you ever decide to retire from politics, we can use you out here in Las Vegas."

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Supermarket Convention--

(Concluded from Page 1, Col. 2)

million a year business or more, for every 10 supermarkets now in existence. This is about twice as many as built during 1954.

"Such a tremendous rate of expansion makes for rapid obsolescence," Kornblau asserted. "Accordingly, the vigorous program of new construction will be accompanied by extensive remodeling of older stores."

He pointed out that more than one third of all supermarkets built through 1951 have undergone major remodeling in the past three years alone. Even some supers built since 1951 have already been substantially remodeled. This included 18% of the supers built in 1952 and 6% of those built in 1953.

Kornblau reported that, on the whole, supermarkets enjoyed another good year in 1954. As in each of the earlier six annual studies of supermarket operations, the cost of doing business increased over the previous year, but the proportion of companies with higher expense ratios was the smallest in five years.

The overwhelming majority registered sales gains, expansion continued apace, and more than half of the companies showed a higher ratio of net profit than in 1953. One out of three companies had a lower net profit than in 1953.

OPERATING PROFIT RATIOS

National median of firms reporting figures to SMI indicated a net operating profit ratio before taxes of 2.46%. The middle half of the firms—excluding the extremes—had net operating ratios between 1.6% and 3.31%.

Kornblau reported that 81% of the supermarkets provided air conditioning for their customers in 1954.

Thirty-five per cent of the companies, operating 28% of the markets, offered their customers a discount on frozen foods purchased in quantity. In 42% of the companies this was an even 5% and in 38% of the companies it was 10%.

Currently, 5% of SMI members —operating 5% of all the supers— have a freezer food plan. Nearly half of them started their plan last year.

Nine per cent of the companies, operating 9% of the markets, ran a freezer-food plan at one time and then discontinued it, Kornblau said.

SELF-SERVICE MEAT DEPARTMENTS GROWING

The SMI annual survey showed that 80% of the supermarkets have completely self-service meat departments and another 12% have partial self-service.

"A service meat department has become a rarity in the modern supermarket," Kornblau stated. "The old fashioned butcher has become an executive in charge of assembly line production with power saws and other modern equipment cutting the cost of meat to the consumer. To increase efficiency in pre-packaging of meat still further, a number of supermarkets are even trying out meat wrapping machines."

Every reporting supermarket carried frozen foods last year. Frozen food sales (not including ice cream) of 273 of the reporting companies across the nation averaged 3.5% of total sales last year. One supermarket operator who made a detailed analysis of his gross profits on 323 classifications of products, found frozen vegetables, frozen juices, and ice cream occupying four of the first 20 places in dollar gross profit returned.

Kornblau reported that 98% of all SMI members do some prepackaging in their supermarkets. But, he said, "it may be questioned whether the supermarket is the most efficient place for pre-packaging perishables into consumer size units. However, until suppliers are ready to do the job economically and effectively, most pre-packaging is done by the supermarket operator himself."

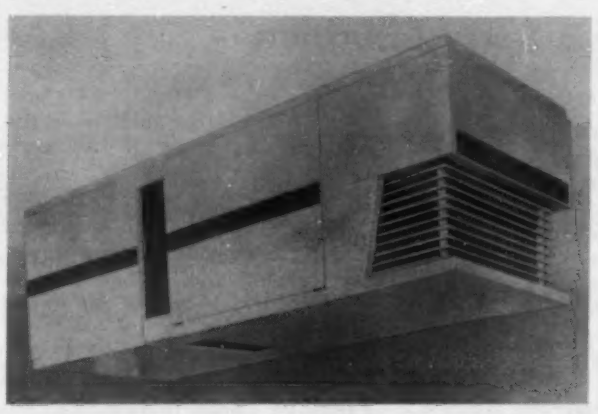
A panel on the subject was unanimous in its opinion that it pays to pre-package perishables in any store that does enough business to hire one full-time produce man. They pointed out that the savings in waste and preparation time is more than sufficient to recover the additional cost of prepackaging, which was said to amount to less than 5% of the selling price.

Emphasizing the tremendous squeeze on supermarket operators for space in which to display their merchandise, it was found that one typical supermarket handled 4,790 different items, including 235 meat items, 150 produce items, 185 dairy items, and 149 frozen food items.

Kornblau pointed out that in addition to food items, almost every supermarket operator had added non-food lines. He said 17% of the supermarkets now handle electrical appliances.

R. W. Noll Dies

LOS ANGELES—R. W. "Bob" Noll of Commercial Refrigeration Co. and former president of the Refrigeration & Air Conditioning Contractors Association, died recently. He was the originator of the apprenticeship program of the Southern California RACCA.



NEW General Electric air-cooled horizontal packaged air conditioner.

G-E Horizontal Air Conditioner--

(Concluded from Page 1, Col. 2)

industrial field.

Developed by G-E's Commercial and Industrial Air Conditioning Dept., the units are available in 3, 5, and 7½-ton capacities.

Commenting on the new models, G. K. Iwashita, general manager of the G-E department, said shortage of floor space "is a chronic illness of almost any commercial or industrial enterprise.

"The store-owner needs all his floor space for merchandise and displays, the factory manager needs his floor area for machinery, aisles, and work in process. Restaurants need more seating capacity."

This new unit, he stated, was designed to answer all these problems.

The same hermetically-sealed condensing unit used in floor models is used in the new water-cooled units.

The entire refrigeration system is replaceable and is covered by a five-year warranty. Under the warranty the system is replaced with a new one and is returned to the factory for servicing.

"The unit is painted ceiling grey.

"On air-cooled models return air enters through grilles at the bottom and sides of the unit. On water-cooled models air enters at the rear. Side panels snap off for easy servicing.

"A completely automatic electrically-activated 'muggy weather control' has been added to give even higher moisture removal on humid days.

Prices on water-cooled models are the same as present floor models, with the air-cooled feature costing slightly more.

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